



The Impact of Artificial Intelligent Tools on Students' Learning

Shibani Kulkarni

Department of Computer Science, Dr. D. Y. Patil, Arts, Commerce & Science College, Pimpri, Pune, Maharashtra, India

ARTICLE INFO	ABSTRACT
Published Online: 14 March 2026	The emergence of Artificial Intelligence has brought about changes in the academic perspective of the student community. Especially, post covid-19 the direct or indirect inclusion of AI tools by students in the learning process has been observed. The study is carried out in this paper by framing a survey. The first year and second year students of B.Sc. (AI and ML) course participated in the survey. Student responses were collected through a questionnaire comprising of multiple-choice questions as well as some open ended questions. The results were then analyzed using graphical analysis. The impact of usage of AI tools on students was categorized into three categories positive, neutral and negative. The findings revealed that Artificial Intelligence and the AI academic tools have proved to be extremely useful to the students provided they are used in correct manner. Student engagement, learning improvement, technical skill enhancement, and proper utilization of time are some of the important benefits of AI integration in academics. On the other hand there are some limitations which were observed in the result such as extreme dependency on AI by students, lack of honesty while assignment submissions, loss of critical thinking ability. Thus, AI educational tools should be integrated properly in the academic framework to get better outcomes. Also, its usage should be monitored to imbibe ethical usage of AI tools by the students. It would help educational institutes to enhance learning experiences and develop outcome based educational environment.
Corresponding Author: Shibani Kulkarni	
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INTRODUCTION

Due to the covid-19 pandemic there was a sudden shift in all the sectors including education. The exponential growth in the usage of internet, social media led to generation of large volumes of data. This resulted in the emergence of Data Science and Artificial Intelligence.

The advent of AI and its use by the students in education influenced the academic performance of students. AI enhanced the learning experience of the students by providing organized academic content, personalized learning space. AI tools also helped to determine the shortcoming in existing academic framework.

In conventional education, students are engaged in academic activities such as participative learning, experiential learning and problem-solving. This helps the students to improve their logical and critical thinking abilities. In order to influence students' overall learning experiences, critical thinking abilities are crucial. To improve students' capacity to assess material and generate independent viewpoints, teachers frequently use questioning

strategies, group projects, and assignments. But it has been observed in recent years that students are completing all these submissions with the help of AI tools. Thus, the information processing ability of artificial intelligent tools has hampered the development of students' critical thinking ability.

AI has enormous potential to revolutionize education through adaptive systems and personalized learning. However it should be integrated cautiously in the academic framework for better results. In addition to addressing ethical and pedagogical issues, a deeper comprehension of how AI interacts with educational theories is crucial. It is possible to guarantee that AI empowers rather than excludes by using a human-centered, balanced strategy that prioritizes fair access.

The study was carried out to find the impact of AI tools on the learning process.

2. PROPOSED METHODOLOGY

Data Collection

The data was collected from the first year and second year students of B.Sc. (Artificial Intelligence and Machine learning) course. A survey method was used to collect the responses from students. The survey was generated using a Jotform. The survey comprised of two major sections. In the first section four multiple choice questions were asked to understand the awareness of AI tools among students. One question was framed to know the overall impact of AI tools on the individual.

In the second section a detailed questionnaire was framed to understand the students’ perception on usage of AI tools in the process of learning and academics. Nine questions were framed to study this. In this section a 5 point Likert scale was used where 1 represents strongly disagree , 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree.

Sample Size

The survey was conducted and the response was collected from 65 students from first year and 61 students of second year. Total 126 students responded to the survey.

Data Analysis

The data was analysed through graphical analysis and percentage usage of the AI tools by students for learning purpose. The ease of use and awareness about the AI tools was also analyzed. The overall impact about the AI tools on students was also analyzed and classified into three categories that are Positive, Neutral and Negative. The ethical use of AI tools and whether it should be integrated with the educational framework was analysed through the survey.

RESULTS AND DISCUSSION:

Each question in the study was addressed both quantitatively—by computing frequencies within particular thematic categories—and qualitatively—by statistically analysing participant responses.

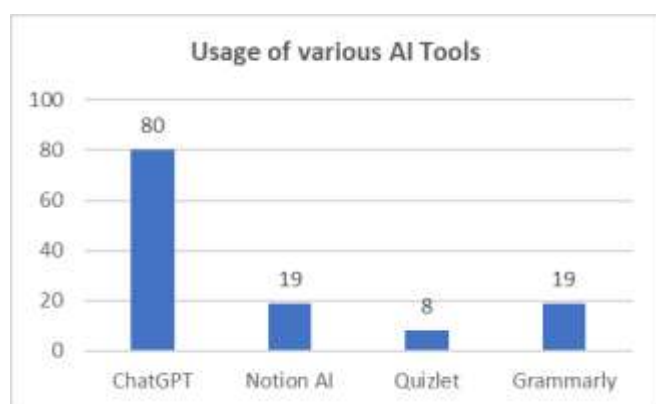


Fig.1 Usage of AI Tools

It was found that almost all the respondents were aware about the tools and are using Artificial intelligence tools for the academic purposes (Daily weekly, monthly). The most popular AI tool amongst student was found to be ChatGPT,

followed by Notion AI and Grammarly having equal votes. The Quizlet tool was used rarely by the students.

Regarding the purpose of use of AI tools it was found that mostly the students were found to use the AI tools for learning new concepts. Secondly, it is used for examination. Some used it for Examination preparation. Few students used it for writing assistant. This could be because the survey participants were undergraduate students and are not into research domain.

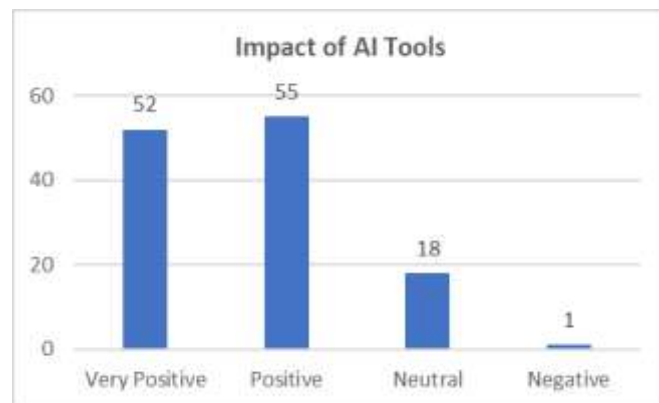


Fig.2 Impact of AI Tools

The respondents employ artificial intelligence technologies in academic pursuits, according to the statistical data collected. This high percentage reflects the growing integration of cutting-edge technologies into the educational scene and implies that students are widely adopting AI tools. About the usage of AI tools from 126 students 55 students were positive about the usage of the tools. 52 students were very positive, 18 students were not for using the tools. Only one student was against the usage of the tools.

Additionally, we wanted to find out how students felt about the employment of artificial intelligence (AI) in their education. According to the findings, a sizable majority of students think AI is useful for their academic endeavours. Therefore, 83.33% of them concur that utilising AI-based technologies improves their educational experience, either by maximising study time or by giving them rapid access to tailored educational resources that help them comprehend difficult subjects, and the overall process of education. Modern students' comprehension of AI's potential to aid in their studies may be limited by their preference for conventional teaching techniques or their inability to use modern technologies.

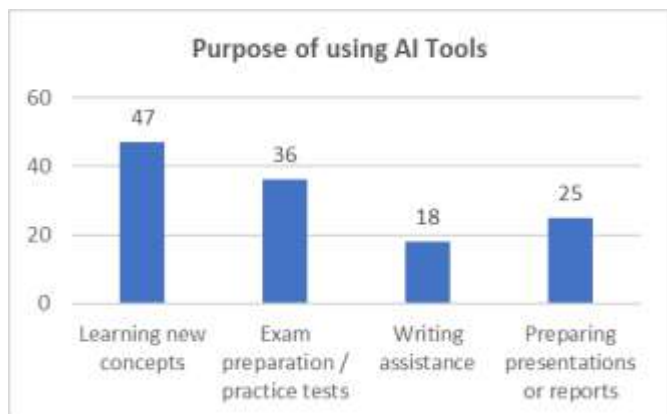


Fig 3. Purpose of using AI tools

The survey sought to find out how much students think using artificial intelligence (AI) improves their learning efficiency, taking into account things like time savings or rapid access to pertinent information. According to the findings, the majority of students think that AI increases their learning efficiency by making it easier for them to access educational materials quickly, cutting down on the time it takes to obtain information, and assisting them in better organising their academic activities.

Overall Impact

It was observed that 86.5 % of the students displayed overall positive attitude towards implementing AI tools in learning. 12% of the students reflected neutral attitude towards its usage.

CONCLUSION

From the survey it could be concluded that for the successful integration of AI in education, the policy makers, administrators and teachers need to ensure the correct use of AI tools. Institutions should provide comprehensive training programs for professors and students. There is a need to establish strong AI deployment criteria, such as regular validation of generated information and unambiguous rules. If all these mechanisms are applied one can generate a

standard framework of AI tools which can be integrated with the Education System.

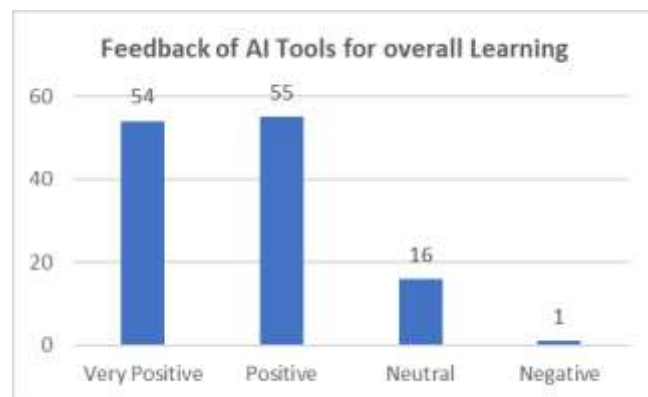


Fig 4. Feedback of AI Tools for overall Learning

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