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THE INFLUENCE OF AI AWARENESS ON USAGE, SATISFACTION, AND ACADEMIC PERFORMANCE

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ABSTRACT

Artificial intelligence has created a remarkable impact on the education and learning of college students. This can be attributed to the rise of AI tools in the global arena. This study is intended to analyze the level of impact amongst the students. Primary data was collected in the form of a questionnaire with respect to the usage, satisfaction obtained, and change in academic performances by the usage of AI-based tools for education. The study revealed that most of the students know about the concept of AI and also use it in large for education. The most used AI application pertains to chatbots. Students use the technology mainly for assignments and to improve their knowledge. The satisfaction achieved from the tools is optimistic, and there is a moderate to high level of change that has happened in the academic performance of students with usage of AI. Moreover, the students expect that there is a high scope of improvement with respect to the applications of AI in the learning process. However, the usage of AI for education can be made a widespread practice by imparting usage of AI tools in curriculum and by spreading awareness on AI.

Keywords: Artificial Intelligence (AI), Education, Chatbots, Learning, Academic Performance

1. INTRODUCTION

Artificial intelligence, also known as AI, has been the topic of discussion in many subject areas. Artificial intelligence (AI) refers to the technology that enables a machine to think, act, and decide like humans. There are various merits of AI, like it can reduce cost and time and it can be accurate. There also exist its demerits, such as security issues, employment threats, legal and ethical problems, etc. However, this technology has proven to be useful for people in different areas in the last few years as it helps them to accomplish an assigned task easily and to reduce their workload by automating repetitive tasks. The education sector is not an exemption for the usage of AI. Both teachers and students use different forms of AI in their daily lives to teach and learn concepts, respectively. In more particulars, usage of AI by students to do their assignments and to enhance their academic performances has increased in recent days. Students are also satisfied to a greater extent as AI serves their purposes well. This study intends to know and analyse the usage of AI by students, the level of satisfaction it provides, and its impact on their academic performances.

2. OBJECTIVE OF THE STUDY

The following are the objectives of the study:

- To understand the usage of AI by college students in general.
- To know about the pattern of using AI-based tools by students for education and learning.
- To identify the areas where AI is used with respect to learning.
- To assess the level of satisfaction achieved by students when AI is used by them for learning.
- To rate the level of improvement expected by them in the field of AI that can facilitate more efficient application in education and learning.

3. LITERATURE REVIEW

Artificial intelligence-based chatbots are widely used for educational purposes. Its usefulness can be measured by knowledge management factors such as knowledge acquisition, satisfaction, perceived usefulness, and knowledge sharing. Building a chatbot for education by considering the above-mentioned factors along with the help of techniques like structural equation models, artificial neural networks, etc. can help in sustainable learning. (Al-Sharafi et al., 2022)

It has become vital to understand the implications of the usage of AI tools in education and learning. To be more precise, ChatGPT has become an important software used by students. Also, by analyzing the knowledge management factors, it has clearly shown that this software resulted in increased satisfaction in the learning process. (Ngo et al., 2024)

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Students are using e-learning platforms like Coursera, eDX, etc. in larger numbers during recent years. Usage of AI in these learning platforms has proven effective as it increases user satisfaction and shows a spike in the number of users. Such platforms are also used in social learning, building personal learning portfolios, etc. (Saqr et al., 2023)

Different kinds of e-learning platforms have different impacts of applications of AI. Such applications decide upon the usage and satisfaction among students. Moreover, a good number of educational institutions are in the process of imparting AI-blend e-learning techniques for their students. (Sivaperumal et al., 2024)

Education is revolutionized with the usage of technologies like AI for learning. It has become a necessity for teachers to also impart such technologies in their teaching, making it an intelligent teaching. This can be achieved by understanding the needs of students and by building a sophisticated model using SEM models and AI. (Wang et al., 2021)

AI-based chatbots are used by students for different purposes like research, assignments, etc. They get a moderate to high level of satisfaction with the usage of such chatbots as they are responsive, accurate, and adaptable. Also, the reasons for usage are that they improve academic performances, are time-saving, and can be accessed anytime. (Subaveerapandiyan et al., 2024)

4. RESEARCH METHODOLOGY

A quantitative study is carried over in this research in order to achieve the research objectives. The data collected was in the form of multiple-choice questions, which provided information on preferences, usage patterns, and ranks of usage and satisfaction. The number of answers per choice provided was used for analysis. This study uses only primary data, which was collected by questionnaire.

A questionnaire containing questions with respect to data intended to be collected was prepared. Totally, 100 questionnaires were circulated randomly, out of which the responses for 81 were received. The research was carried out in a general manner, where the intention of the research was to understand the usage, satisfaction, and impact of AI-based tools for learning and education by college students. Frequency distribution analysis was completely carried out for analyzing the data collected for the purpose of research. The interpretations were drawn from the frequency distribution tables of the data.

5. RESULTS

The following are the results from the data obtained from the questionnaire, presented as frequency distribution tables. The responses to questions are grouped based on the information intended to be studied in the research.

5.1 DEMOGRAPHIC PROFILE OF RESPONDENTS

Questions to know the demographic details of the respondents were initially collected by the questionnaire. Data regarding gender, level of education pursuing, and stream of academic studies were collected through the questions.

TABLE NO. 1 : DEMOGRAPHIC PROFILE OF RESPONDENTS

GENDER	**Counts**	**% of Total**	**Cumulative %**
MALE	51	63.0 %	63.0 %
FEMALE	30	37.0 %	100.0 %
EDUCATION LEVEL	**Counts**	**% of Total**	**Cumulative %**
UNDER GRADUATE	81	100.0 %	100.0 %
ACADEMIC STREAM	**Counts**	**% of Total**	**Cumulative %**
COMMERCE	78	96.3 %	96.3 %
SCIENCE	3	3.7 %	100.0 %

This table presents the demographic profile of the respondents, showing that the sample is predominantly male, with 63% of the respondents being male and 37% being female.

All respondents are undergraduates. The academic stream distribution reveals that 96.3 are from the Commerce stream, while only 3.7% are from the Science stream. This demographic profile suggests that the study is primarily reflective of the perspectives of male undergraduate students in the Commerce stream, with limited representation from females and those in the Science stream.

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5.2 AWARENESS ABOUT ARTIFICIAL INTELLIGENCE

After getting to know about the demographic essential details, the question was asked whether the respondents knew about the concept of AI or not.

TABLE NO. 2 : AWARENESS ABOUT ARTIFICIAL INTELLIGENCE

AWARENESS ABOUT AI	Counts	% of Total	Cumulative %
NOT AWARE (NO)	6	7.4 %	7.4 %
AWARE (YES)	75	92.6 %	100.0 %

Nearly 92.6% of respondents answered that they knew about the concept of AI. Only a meager number of 7.4% of respondents weren't aware of AI. This indicates that most of the respondents knew about the basic concepts, usage, and advantages of AI.

5.3 LEVEL OF AWARENESS ABOUT AI

Later, the respondents were asked to rank the level of understanding about AI on a scale of 0 to 5. A rank of 0 shows no knowledge, and 5 shows the higher level of knowledge.

TABLE NO. 3 : LEVEL OF AWARENESS ABOUT AI

LEVEL OF AWARENESS	Counts	% of Total	Cumulative %
NONE (0)	6	7.4 %	7.4 %
UNKNOWN (1-2)	18	22.2 %	29.6 %
NEUTRAL (3)	24	29.6 %	59.3 %
AWARE (4)	24	29.6 %	88.9 %
HIGHLY AWARE (5)	9	11.1 %	100.0 %

The results of the data collection show that respondents' levels of AI awareness vary, with a sizable part (59.2%) indicating either neutral or aware knowledge, indicating a moderate comprehension of AI within the population. Nonetheless, 22.2% of those surveyed had no idea what AI was. Moreover, 7.4% of respondents said they knew nothing about AI at all, indicating that a sizable minority lacks even rudimentary understanding of the field. This could impede their capacity to interact with AI tools and technology in an efficient manner, which could have an unintended effect on education.

The 11.1% of people who are highly knowledgeable might be individuals who use AI more frequently in professional and academic contexts, underscoring the need for focused educational efforts to raise awareness and comprehension among all stakeholders.

5.4 TYPE OF AI TOOL USED OFTEN

In the questionnaire, the question followed was about the type of frequently used AI tool. The options available were chatbots, search engines, and other tools. The responses of those who don't know about AI were considered as no tools were used.

TABLE NO. 4: TYPE OF AI TOOL USED OFTEN

TYPE OF AI TOOL USED OFTEN	Counts	% of Total	Cumulative %
NO TOOL IS USED*	18	22.2 %	22.2 %
CHATBOT	45	55.6 %	77.8 %
AI BASED SEARCH ENGINE	12	14.8 %	92.6 %
OTHER TOOLS	6	7.4 %	100.0 %
* Included respondents not aware about AI			

A majority (55.6%) of respondents reported chatbots as the most often used AI tool, followed by AI-based search engines at 14.8%.

Notably, 22.2% of participants indicated that they do not use any AI tools, reflecting that they do not have any knowledge about AI. Additionally, 7.4% of respondents mentioned using other types of AI tools.

5.5 USAGE OF AI TOOLS IN EDUCATION

Then, the question was asked whether the respondents use AI tools for education and learning purposes.

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TABLE NO. 5: USAGE OF AI TOOLS IN EDUCATION

USAGE OF AI IN EDUCATION	Counts	% of Total	Cumulative %
NOT USED (NO)	27	33.3 %	33.3 %
USED (YES)	54	66.7 %	100.0 %

The response clearly displays that out of the total participants, 66.7% have used AI in education, while 33.3% have not. This indicates that a significant majority of respondents are engaging with AI tools in their educational activities.

5.6 PURPOSE OF USAGE OF AI FOR EDUCATION

Later, the respondents were asked regarding the purpose of using AI for education. The question offered different options, like using AI tools for research, assignments, to gain subject knowledge, and to gain general knowledge. Also, answers of respondents who answered not using AI were considered "not used.".

TABLE NO. 6: PURPOSE OF USAGE OF AI FOR EDUCATION

PURPOSE OF USAGE	Counts	% of Total	Cumulative %
Not used	9	11.1 %	11.1 %
Research	6	7.4 %	18.5 %
Assignments	36	44.4 %	63.0 %
General knowledge	9	11.1 %	74.1 %
Subject knowledge	21	25.9 %	100.0 %

The data shown in the above table shows that the most common purpose for using AI in education is for completing assignments, accounting for 44.4% of respondents. This is followed by enhancing subject knowledge, with 25.9% of respondents indicating this usage. General knowledge and non-usage both represent 11.1% each, highlighting that a small but significant portion either does not engage with AI for educational purposes or uses it for broader informational needs. Research-related usage is the least common, with only 7.4% of respondents reporting this.

5.7 TYPE OF AI USED FOR EDUCATION

Next, the data required to be obtained was about which type of AI tool is used frequently by the respondents for education and learning purposes. Such AI tools included Chatbots, AI based search engines, Image generators, etc. The responses of those doesn't know about AI were considered as no tools were used.

TABLE NO. 7: TYPE OF AI USED FOR EDUCATION

TYPE OF AI USED FOR LEARNING	Counts	% of Total	Cumulative %
None	15	18.5 %	18.5 %
Chatbot	48	59.3 %	77.8 %
AI Based Search Engine	9	11.1 %	88.9 %
Others	3	3.7 %	92.6 %
Image generator	6	7.4 %	100.0 %

The data in the above table shows that cumulatively, 77.8% of the respondents use AI tools for educational purposes. Majorly, chatbots are the most widely used type of AI for education, with 59.3% of respondents. This is followed by AI-based search engines, which are utilized by 11.1% of participants. A small proportion of respondents (7.4%) use image generators, while 3.7% reported using other forms of AI. Notably, 18.5% of respondents do not use any AI for learning. The distribution highlights that chatbots dominate the landscape of AI tools in education, while other types of AI remain less common.

5.8 SATISFACTION ACHIEVED BY USING AI FOR EDUCATION

Then, the question asked was regarding the level of satisfaction, ranked in rating from 0 to 5, which is achieved by respondents by using AI tools for education and learning purposes. A higher rating indicates a higher level of satisfaction obtained by the usage of AI technology.

TABLE NO. 8: SATISFACTION ACHIEVED BY USING AI FOR EDUCATION

Level of Satisfaction	Counts	% of Total	Cumulative %
None	6	7.4 %	7.4 %

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Highly Dissatisfied	3	3.7 %	11.1 %
Dissatisfied	6	7.4 %	18.5 %
Neutral	18	22.2 %	40.7 %
Satisfied	30	37.0 %	77.8 %
Highly Satisfied	18	22.2 %	100.0 %

The table shown above indicates the distribution of satisfaction levels among users of AI for education, giving an insight that the majority of respondents had a positive experience. Specifically, 37.0% reported being "satisfied," and 22.2% were "highly satisfied," together comprising 59.2% of the total, which suggests that more than half of the participants found AI tools beneficial in their educational activities. Conversely, a small proportion expressed negative sentiments on satisfaction, with 3.7% being "highly dissatisfied" and 7.4% "dissatisfied," totalling 18.5% who had unfavourable experiences. The remaining 22.2% were "neutral," reflecting no strong opinion on the effectiveness of AI in their educational experience.

5.9 LEVEL OF CHANGE IN ACADEMIC PERFORMANCE AFTER USING AI

The next question that was asked to the respondents was about the impact of the usage of AI tools for education. The level of change made by AI tools in the participants' academic performance is collected as data in the form of a scale of ranking from 0 to 5, ranging from a lower to a higher level of change.

TABLE NO. 9: LEVEL OF CHANGE IN ACADEMIC PERFORMANCE AFTER USING AI

Level of Change in Academic Performance	Counts	% of Total	Cumulative %
None	9	11.1 %	11.1 %
Minimal	6	7.4 %	18.5 %
Moderate	21	25.9 %	44.4 %
Significant	30	37.0 %	81.5 %
Major	9	11.1 %	92.6 %
Transformative	6	7.4 %	100.0 %

The above table summarizes the impact of AI on academic performance. Out of the 81 respondents, 11.1% reported no change (including responses of those who don't use AI tools), while 7.4% experienced minimal improvement. A majority of students (25.9%) observed moderate progress, and 37% achieved significant gains. Notably, 11.1% reported a major positive impact, and 7.4% experienced a transformative shift in their academic performance after using AI. Overall, the data suggests that AI has had a predominantly positive influence on academic outcomes, with a significant portion of students demonstrating substantial improvements.

5.10 CHANCE OF FURTHER DEVELOPMENT IN AI THAT FACILITATES LEARNING

Finally, the question that was asked is regarding the chance that the respondents expect that there can be a further development in AI tools and technology that could facilitate and help for education and learning.

TABLE 10: CHANCE OF FURTHER DEVELOPMENT IN AI THAT FACILITATES LEARNING

Chance of Further Development in AI that facilitates learning	Counts	% of Total	Cumulative %
No Chance	6	7.4 %	7.4 %
Very Low	3	3.7 %	11.1 %
Low	9	11.1 %	22.2 %
Moderate	33	40.7 %	63.0 %
High	30	37.0 %	100.0 %

This table illustrates the perceived likelihood of further development in AI that facilitates learning, with the majority of respondents indicating a moderate to high chance of such advancements. Specifically, 40% of participants believe there is a moderate chance, while 37.0% anticipate a high chance of further development, collectively representing 77.7% of the total responses. In contrast, a small portion of respondents (22.2%) expressed disbelief, with 7.4% seeing no chance and 14.8% considering the likelihood to be very low or low. This distribution suggests a generally optimistic outlook towards AI's potential to enhance learning.

6. FINDINGS AND DISCUSSION

- The main intention of this study is to know about the usage patterns and preferences of college students in using AI tools for education and learning purposes. This was served by collecting data from the respondents. The data was analyzed and presented in the form of frequency distribution tables, representing percent of responses for each option. The analysis performed provides the following interpretation:
- Most of the students know about the concept of artificial intelligence. While few have expertise in the field, nearly 92% have minimum knowledge about the concept.
- The most used AI tool by the students is chatbots, with nearly 55% of them using it frequently.
- Two-thirds of the students use AI tools and applications for learning purposes often.
- AI tools are used in learning mainly to complete assignments and to gain book-based and general knowledge.
- Chatbots pertain to being the most frequently used AI tool for education usage, being 60% of the students rank it as the most often used tool.
- 59% of the respondents are satisfied with using AI tools for education, and nearly 57% agree that usage of AI tools has created a positive impact in education.
- Three-fourths of the respondents agree that there is moderate to high scope of improvement in the application of AI tools for learning and education.

7. CONCLUSION

This study highlights the crucial influence of AI tools on the usage for education, satisfaction gained, and academic performance of college students. The research reveals that a large majority of students are well-versed in AI concepts and actively incorporate AI tools, particularly chatbots, into their educational activities. These tools are primarily used to complete assignments and enhance subject knowledge, leading to noticeable improvements in academic performance for most users. The positive correlation between AI usage and academic outcomes suggests that AI has the potential to significantly enrich the learning experience, making education more engaging and efficient.

However, the study also identifies areas for improvement. A portion of students remains either unaware of AI or dissatisfied with their experiences, indicating a need for more targeted educational initiatives to boost AI literacy. Ensuring that all students have the skills and confidence to effectively use AI is essential for maximizing its benefits. Moreover, while the potential for further development in AI is widely recognized, it's important to approach this evolution thoughtfully, avoiding over-reliance on technology that could undermine critical thinking and independent learning. Future research and efforts to integrate AI tools in the ICT learning curriculum can help in enhancing AI literacy. Moreover, educationalists should explore strategies for integrating AI in ways that complement, rather than replace, traditional educational methods. It has become the need of the hour for schools and curriculum designers to impart AI applications in the syllabus. This can help the students gain a wider exposure and can help them be ready for industrial workspace.

8. REFERENCE

[1] Al-Sharafi, M. A., Al-Emran, M., Iranmanesh, M., Al-Qaysi, N., Iahad, N. A., & Arpaci, I. (2022). Understanding the impact of knowledge management factors on the sustainable use of AI-based chatbots for educational purposes using a hybrid SEM-ANN approach. Interactive Learning Environments, 31(10), 7491–7510. https://doi.org/10.1080/10494820.2022.2075014

[2] Ngo, T. T. A., Tran, T. T., An, G. K., & Nguyen, P. T. (2024). ChatGPT for educational purposes: Investigating the impact of knowledge management factors on student satisfaction and continuous usage. IEEE Transactions on Learning Technologies, 17, 1367–1378. https://doi.org/10.1109/tlt.2024.3383773

[3] Saqr, R. R., Al-Somali, S. A., & Sarhan, M. Y. (2023). Exploring the Acceptance and User Satisfaction of AI-Driven e-Learning Platforms (Blackboard, Moodle, Edmodo, Coursera and edX): An Integrated Technology Model. Sustainability, 16(1), 204. https://doi.org/10.3390/su16010204

[4] Sivaperumal, Dr. K., Mishra, Dr. B. R., Sathya, G., B, Dr. K., Bharathi, Dr. R., & Theerthamalai, Dr. S. (2024). Satisfaction of user towards AI tools in education institutions with reference to Tamil Nadu. Educational Administration: Theory and Practice, 30(5), 5576–5580. https://doi.org/10.53555/kuey.v30i5.3825

[5] Subaveerapandiyan, A., Radhakrishnan, S., Tiwary, N., & Guangul, S. M. (2024). Student satisfaction with artificial intelligence chatbots in Ethiopian academia. IFLA Journal. https://doi.org/10.1177/03400352241252974

[6] Wang, S., Wang, H., Jiang, Y., Li, P., & Yang, W. (2021). Understanding students' participation of intelligent teaching: An empirical study considering artificial intelligence usefulness, interactive reward, satisfaction, university support and enjoyment. Interactive Learning Environments, 31(9), 5633–5649. https://doi.org/10.1080/10494820.2021.2012813