**Beyond the Screen: Exploring Student Perceptions of AI in Education**

**Abstract**

 The integration of Artificial Intelligence (AI) into education has sparked significant debate regarding its potential to enhance learning outcomes and transform traditional educational paradigms. This study investigates the perception of students toward AI in education, exploring their perceived usefulness, ease of use, trust, concerns and satisfaction as a dimension. The study was conducted in 2024 among Agricultural Universities of Karnataka. The target audience are the students who have undertaken the use of any AI tool in their learning journey which may be Chat GPT, ARVR, educational games, Kahoot, Quizlet, personalized learning platforms, chatbots, automated grading systems *etc*. A total of 120 respondents comprising of 60 undergraduate students and 60 post graduates are selected randomly. A scale was developed to measure the perception of students towards AI in education. The obtained results were tabulated, categorised and analysed using, mean, frequency, percentage, mean scores and ranking. The results were found that, majority of the respondents perceive AI technologies help them to learn more effectively and AI tools were found to improve the quality of their learning. And least score was obtained for the statement that they trust AI based systems to provide accurate and reliable information. Further the rankings will be given for each statement based on the mean score. Integration of AI has vast spread in almost all of the disciplines resulting in ease of work, enhance efficiency and many more. But it also has some of the associated issues like loss of human interaction, data privacy, and the potential for over-reliance on technology. Hence, it can the concluded telling even with the advancement of technology, it is the human who want to make use of AI as a complementary tool that enhances, rather than replaces, traditional learning experiences.

**Key words**: Educational paradigms, perception, usefulness, technology.

**Introduction**

 The rapid advancement of artificial intelligence (AI) has begun to reshape various sectors, with education being one of the most significantly impacted. As AI technologies increasingly integrate into classrooms, administrative processes, and learning platforms, they promise to enhance educational experiences, personalize learning, and streamline operations. However, as these technologies evolve, understanding how students perceive AI in education becomes crucial. Their perspectives, shaped by experiences, knowledge, and expectations, play a key role in determining the successful adoption and integration of AI tools. While AI promises numerous benefits such as adaptive learning systems, real-time feedback, and intelligent tutoring, it also raises concerns about privacy, data security, and the potential loss of human interaction. This exploration aims to uncover the nuances of student perceptions, considering both the opportunities and challenges posed by AI, and how these factors influence their trust, engagement, and overall experience in an increasingly digital and automated educational landscape. this study provides valuable insights by examining the intersection of technology and human experience and tells how students envision their role in a future where AI is deeply embedded in their educational journeys. With this general background the research was undertaken to-

* study the perception of students toward AI in education

**Methodology**

This study was conducted in 2024among Agricultural Universities of Karnataka *i.e.,* University of Agricultural Sciences, GKVK, Bengaluru, University of Agricultural Sciences, Raichur, University of Agricultural Sciences, Dharwad and Keladi Shivappa Nayaka University of Agricultural and Horticultural Sciences, Shivamogga. An *ex post facto* research method was employed to measure the perception of students in these Agricultural Universities. The target audience are the students who have undertaken the use of any AI tool in their learning journey which may be Chat GPT, ARVR, educational games, Kahoot, Quizlet, personalized learning platforms, chatbots, automated grading systems *etc*. A total of 120 respondents comprising of 60 undergraduate students and 60 post graduates are selected randomly. A scale was developed and students were tested for their perception towards AI in education/ learning through well-structured questionnaire. Google forms were used to take responses from the respondents. The obtained results were tabulated, categorised and analysed using, mean, frequency, percentage and mean scores.

**Review of literature**

Binns (2018) suggests that students' attitudes toward AI can be influenced by several factors, including their understanding of AI, privacy concerns, and the perceived usefulness of AI in their learning. According to Zhou *et al.* (2022), students are often uneasy about how their data is collected and used, particularly in AI-driven platforms. Nguyen & Nguyen (2023) found that transparency regarding how AI tools process and protect students' data can reduce privacy concerns and increase acceptance of these technologies. Baker *et al.* (2019) argued that AI tools can complement traditional teaching but should not be seen as substitutes for human interaction. Luckin *et al.* (2016) highlighted that while students recognize AI’s potential to revolutionize education, they are also concerned about the loss of human touch in learning. Anderson *et al.* (2021) found that students are optimistic about AI’s potential but remain cautious, especially about the implications for their learning experiences and long-term educational outcomes.

**Results and discussion**

 This study was conducted to provide a comprehensive understanding of how students evaluate AI technologies in education, considering not only their perceived usefulness and ease of use but also the critical factors of trust, ethical concerns, and overall satisfaction, which collectively shape their acceptance and engagement with AI-driven learning tools.

 Table 1 represent the statement wise perception of students towards AI in education. In case of the students perception towards perceived usefulness, less than half (44.17 %) of the respondents strongly agree that AI technologies help in effective learning in an online courses, more than half (51.67 %) of the respondents strongly agree that AI tools improves the quality of learning experience, less than half of the respondents (45.00 %) strongly perceive that AI enhances the ability to access relevant course material, nearly three fifth (58.33 %) agreed that AI systems support personalized the learning that caters to the individual needs and half (50.00 %) of them agreed that  they believe AI based learning tools make my online course more efficient. Students perceive AI as a supplemental tool rather than a primary driver of learning success and it is still being in the process of optimization, and students may not fully experience its benefits in all courses. But AI adds a dynamic element to learning which enhances their engagement and interaction with course materials and they use AI as a time-saver helping them to navigate course content or assess their understanding faster. These may be the probable reasons for the above obtained results.

 With respect to the perceived ease of using AI in education less than half (44.16 %) of respondents agree that it is easy to interact with AI based learning systems, nearly half (48.33 %) of them strongly agreed that AI can easily navigate AI powered learning platforms without much guidance and the same proportion (48.33 %) of respondents agreed saying that they feel confident using AI tools for learning in the courses. Even though it is easy to navigate AI, some of the students may struggle to navigate with the AI interfaces might be the probable reasons for the above-mentioned results.

 In case of trust of respondents towards AI, 33.33 per cent of them are neutral *w.r.t* trust of AI based systems whether they provide accurate and reliable information,  34.17 per cent of respondents neutrally perceived that weather AI tools used in their learning are unbiased and fair; 37.50 per cent of respondents are neutral about trust that AI recommendations align with my learning goals and 37.50 per cent of them agree telling that feel AI systems in education are transparent in their decision-making process. Even though AI gives accurate, timely, quality answers to stated problems, it considers the personal data of individual may be the reason why majority of the respondents are neutral about the trust of AI in education.

 Concern of students towards use of AI in education revealed that, two fifth (40.00 %) of respondents strongly agreed that they are concerned about reduction of human interaction by using AI in their courses, more than half (51.67 %) of the respondents strongly agreed that they worry about the accuracy of AI generated content and concerns, less than half (49.17 %) of the respondents strongly agreed telling that they had fear about AI could replace human instructors in learning environment, less than half (45.83 %) of the respondents agreed about their concern that AI tools may make learning too dependent on technology and slightly more than half (53.33 %) of the respondents agreed about their concern that AI may make learning too dependent on technology. Students are the future work force of the nature. Hence majority are worried about their job place may be replaced my AI and are concerned about its usage in education.

In case of satisfaction of respondents towards use of AI in education, two fifth (40.00 %) of the respondents agreed upon the satisfaction they have with the use of AI in online courses, more than half (51.67 %) of the respondents agree upon their feeling that AI tools improve the overall online learning experience, majority (65.00 %) of the respondents agreed that they would recommend AI based learning tools to other students, more than half of the respondents (52.50 %) agreed that AI has positive impact on my academic performance in learning and nearly three fifth (55.00 %) of the respondents agree that they are happy with the level of AI integration in my learning environment. The type of easy operation AI has, its method of integration with the existing system made it universal in every domain. These important features might be the reason for the satisfaction of students with the use of AI in education.

**Table 1: Statement wise perception of students towards AI in education**

n=120

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Statements** | **SA** | **A** | **N** | **D** | **SD** |
| **F** | **%** | **F** | **%** | **F** | **%** | **F** | **%** | **F** | **%** |
| A | **Perceived usefulness** |
| 1 | I learn more efficiently in an online course thanks to AI technologies | 53 | 44.17 | 47 | 39.16 | 20 | 16.66 | 00 | 00 | 00 | 00 |
| 2 | AI-powered resources enhance my educational experience | 62 | 51.67 | 49 | 40.83 | 09 | 7.50 | 00 | 00 | 00 | 00 |
| 3 | AI improves my access to pertinent course materials | 54 | 45.00 | 46 | 38.33 | 20 | 16.67 | 00 | 00 | 00 | 00 |
| 4 | AI systems facilitate individualized education that meets my specific requirements | 34 | 28.33 | 70 | 58.33 | 16 | 13.33 | 00 | 00 | 00 | 00 |
| 5 | AI-based learning resources, in my opinion, improve the effectiveness of my online course | 40 | 33.33 | 60 | 50.00 | 17 | 14.17 | 03 | 2.50 | 00 | 00 |
| **B** | **Perceived ease of use** |
| 1 | AI-based learning systems are simple for me to use | 52 | 43.33 | 53 | 44.16 | 11 | 9.17 | 04 | 3.33 | 00 | 00 |
| 2 | I don't need much help navigating AI-powered learning platforms | 58 | 48.33 | 52 | 43.33 | 03 | 2.50 | 07 | 5.83 | 00 | 00 |
| 3 | I'm comfortable utilizing AI learning resources in my classes | 32 | 26.67 | 58 | 48.33 | 26 | 21.66 | 04 | 03.33 | 00 | 00 |
| **C** | **Trust in AI** |
| 1 | I have faith that AI-based systems will deliver accurate and trustworthy information. | 38 | 31.67 | 28 | 23.33 | 40 | 33.33 | 10 | 8.33 | 04 | 3.33 |
| 2 | I have faith that the AI resources I use to learn are impartial and equitable | 30 | 25.00 | 45 | 37.50 | 41 | 34.17 | 04 | 3.33 | 00 | 00 |
| 3 | I have faith that AI suggestions will support my learning objectives | 20 | 16.66 | 47 | 39.17 | 45 | 37.50 | 08 | 6.67 | 00 | 00 |
| 4 | I believe that the decision-making process of AI systems in education is transparent | 34 | 28.33 | 45 | 37.50 | 28 | 23.33 | 13 | 10.83 | 00 | 00 |
| **D** | **Concerns about AI in education** |
| 1 | AI could lessen human interaction in my classes, which worries me | 48 | 40.00 | 46 | 38.33 | 11 | 9.17 | 15 | 12.50 | 00 | 00 |
| 2 | I have concerns about the veracity of content produced by AI | 62 | 51.67 | 48 | 40.00 | 10 | 8.33 | 00 | 00 | 00 | 00 |
| 3 | I worry that in a learning environment, AI may eventually take the place of human teachers | 59 | 49.17 | 37 | 30.83 | 07 | 5.83 | 14 | 11.60 | 03 | 2.50 |
| 4 | I worry that AI tools could make education overly reliant on technology | 40 | 33.33 | 55 | 45.83 | 25 | 20.84 | 00 | 00 | 00 | 00 |
| 5 | I worry that AI could make education overly reliant on technology | 30 | 25.00 | 64 | 53.33 | 26 | 21.67 | 00 | 00 | 00 | 00 |
| **E** | **Satisfaction** |
| 1 | I'm happy with how AI is used in my online classes | 24 | 20.00 | 48 | 40.00 | 41 | 34.17 | 07 | 5.83 | 00 | 00 |
| 2 | AI tools, in my opinion, enhance my entire online education experience | 23 | 19.16 | 62 | 51.67 | 35 | 29.17 | 00 | 00 | 00 | 00 |
| 3 | I would advise other students to use AI-based learning resources | 28 | 23.33 | 78 | 65.00 | 14 | 11.67 | 00 | 00 | 00 | 00 |
| 4 | I think AI improves my learning and academic performance | 23 | 19.17 | 63 | 52.50 | 31 | 25.83 | 03 | 02.50 | 00 | 00 |
| 5 | The degree of AI integration in my classroom makes me happy | 38 | 31.67 | 66 | 55.00 | 14 | 11.66 | 02 | 1.67 | 00 | 00 |

SA= Strongly Agree, A= Agree, N=Neutral, D= Disagree, SD=strongly Disagree, F= Frequency, %= Percentage

 Table 2 represents the component wise perception of students towards use of AI in education. It revealed that, 37.50 per cent of respondents had low and high level of perceived usefulness of AI in education and 25.00 per cent of students had medium level of perceived usefulness.

 Nearly three fifth (55.83 %) of respondents perceive medium level of ease of AI, followed by nearly one fifth (25.84 %) of respondents had high and less than one fifth (18.33 %) of respondents had low level of perception towards perceives use of AI.

 In case of trust 36.67 per cent of respondents had low trust on AI, followed by 34.16 per cent of respondents had medium trust and 29.67 per cent had high level of trust on AI in education.

 Respondents concerns about AI in education revealed that, 35.83 per cent of respondents had high concern about use of AI in education followed by 35.00 per cent of respondents had low concern and remaining 29.17 per cent of respondents had medium concern on use of Ai in education.

 With respect to satisfaction of respondents 54.17 per cent of respondents had medium level of satisfaction followed by 32.50 per cent of respondents had high level of satisfaction and 13.33 per cent of respondents had low level of satisfaction with the use of AI in education.

**Table 2: Component wise** **perception of students towards AI in education**

n=120

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl No** | **Components** | **F** | **%** |
| **1** | **Perceived usefulness** |
| Low | 45 | 37.50 |
| Medium | 30 | 25.00 |
| High  | 45 | 37.50 |
| **Mean= 21.30 SD=2.56** |
| 2 | **Perceived ease of use** |
| Low | 22 | 18.33 |
| Medium | 67 | 55.83 |
| High  | 31 | 25.84 |
| **Mean= 12.60 SD=1.61** |
| 3 | **Trust in AI** |
| Low | 44 | 36.67 |
| Medium | 41 | 34.16 |
| High  | 35 | 29.67 |
| **Mean= 15.08 SD=3.00** |
| 4 | **Concerns about AI in education** |
| Low | 42 | 35.00 |
| Medium | 35 | 29.17 |
| High  | 43 | 35.83 |
| **Mean= 20.70 SD=2.87** |
| 5 | **Satisfaction** |
| Low | 16 | 13.33 |
| Medium | 65 | 54.17 |
| High  | 39 | 32.50 |
| **Mean= 19.78 SD=2.76** |

F= Frequency, %= Percentage, SD= Standard Deviation

 Table 3 reveals the overall perception of students with use of AI in education. It depicted that, 37.50 per cent of respondents had medium level of perception towards use of AI in education followed by low 33.33 percent of respondents and high 29.17 per cent respectively. Majority of the respondents do not fully trust or be comfortable with AI and still need more time or exposure to fully embrace its capabilities might be the probable reasons. The obtained results are on par with the results obtained by Anusha (2019).

**Table 3: Overall perception of students towards use of AI in education**

|  |  |  |
| --- | --- | --- |
| **Categories** | **F** | **%** |
| Low | 40 | 33.33 |
| Medium | 45 | 37.50 |
| High | 35 | 29.17 |
|  | **Mean= 89.48 SD=12.85** |

F= Frequency, %= Percentage, SD= Standard Deviation

**Conclusion**

AI in education is still in a phase of gradual adoption; it holds significant potential to transform learning experiences. However, the full integration and success of AI depend on bridging the gap between student perceptions and the technological advancements on offer. By addressing the diverse needs and concerns of students, AI can evolve into a powerful educational tool that enhances learning outcomes for all.

**COMPETING INTERESTS DISCLAIMER:**

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

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