

Perceptions and Acceptance of Students towards AI-Based Learning Assistants in Higher Education

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Abstract—Artificial intelligence (AI) has quickly become a game-changing technology in a number of industries, including education. The potential of this technology to transform conventional teaching, learning and evaluation methods and improve experiences has drawn great attention. AI integration in education has the potential to enhance access to classified information, improve learning, better understanding of students leaning proves on the part of teachers, automated scoring, need based tutoring, and individualized learning experiences. But, in addition to its possible advantages, there are a number of challenges and unknowns that need to be carefully considered. This study investigates student perceptions and acceptance of AI-based learning assistants in higher education. The data collected from the sample reveals that students recognize the potential benefits of AI-based learning assistants, including personalized learning and improved engagement. However, concerns about usability, trust, and privacy were also identified. Descriptive statistics and chi square test have been applied for the purpose of analysis. This study highlights the importance of student-centred design and implementation of AI-based learning assistants, ensuring alignment with student needs and expectations. The study attempts to provide valuable insights for educators, policymakers, and technology developer to inform the effective integration of AI-driven educational technologies.

Index Terms—Artificial intelligence, Higher education, Students.

I. INTRODUCTION

Artificial intelligence (AI) has quickly become a transformative technology in many industries, including education. Its ability to change traditional teaching, learning, and assessment methods has attracted significant attention. Integrating AI in

education can improve access to important information, enhance learning, help teachers/educators understand students' learning processes, enable automated scoring, provide tutoring based on individual needs, and create personalized learning experiences (Al Nabhani et al., 2025). However, along with its possible benefits, there are several challenges and uncertainties that must be addressed. It's important to understand how students view and accept AI-based learning assistants to ensure they are effectively implemented and integrated into higher education as it includes certain cognitive and ethical threats while using artificial intelligence in education (Al-Zahrani & Alasmari, 2024). This research aims to explore student attitudes, preferences, and concerns regarding the use of AI in learning settings, focusing on their perceptions and acceptance of AI learning assistants. Studying how students perceive and accept these tools can help educational institutions, policymakers, and technology developers understand the factors that affect the success of adopting and using these innovative resources. By gathering insights into students' attitudes and preferences, educators can tailor the design and implementation of AI-based assistants to better meet their needs and expectations, ultimately improving the quality of education in higher education institutions.

II. STATEMENT OF THE PROBLEM

Though the use of Artificial Intelligence becoming more and more common in India's Higher Education System, the perceptions of Indian students towards AI-based learning aides and the factors influencing their acceptability remain poorly understood, despite the

potential benefits of these technologies in improving teaching and learning experiences. The purpose of this study is to close this disparity by examining Indian students' choices, attitudes, and worries regarding AI-based learning aids in higher education. This study aims to offer insights that support the efficient integration and application of AI by identifying acceptance hurdles and enablers.

III. REVIEW OF LITERATURE

Artificial Intelligence (AI) has become a significant force in shaping modern education. Research has increasingly focussed in this emerging arena to draw meaningful insights over the period of time in different perspectives and geographical areas(Kamalov et al., 2023). This article investigated AI's role in online learning environments. They found that while students appreciated AI-driven feedback and assessment tools, instructors expressed concerns about over-reliance on automation(Luckin, 2017). The article "Artificial Intelligence in Education and Schools" explores the transformative impact of AI on educational practices and the roles of teachers and school leaders. The study, designed as phenomenological research, gathers insights from various participants, revealing both the potential benefits and challenges associated with AI integration in education. The findings indicate that while there is a generally positive perception of AI among participants, concerns are raised, particularly by educators, regarding its implications for teaching and learning(Gocen & Aydemir, 2020). The research emphasizes the necessity of addressing human psychology and creating the necessary infrastructure to support AI implementation in schools(Obidovna, 2024). This article assessed AI's role in virtual reality-based learning in South Korean institutions, highlighting enhanced student engagement but concerns over accessibility due to high implementation costs. This article assessed the use of AI-based assessment tools in European universities, highlighting their effectiveness in reducing grading biases while stressing the need for human oversight to maintain fairness and adaptability(Cruz-Jesus et al., 2020). This study on AI chatbots in Indian higher education, finding that they significantly improved student support services. However, they highlighted that chatbots were not yet advanced enough to handle complex student queries effectively(Rahiman &

Kodikal, 2024). In this article researcher studied AI-powered adaptive learning platforms in Indian universities, finding that they improved student retention rates. However, they noted that faculty often struggled to integrate AI tools effectively into their traditional teaching methods(Dubey, 2022). This research examined AI-based recommendation systems in Australian universities, which helped personalize course suggestions but raised concerns about data bias influencing student decisions(Davis et al., 2024). This article elaborated AI in education and analysing its applications in the USA. Their findings highlighted AI's potential to support teachers but also emphasized the need for proper training(Baidoo-Anu & Owusu Ansah, 2023). This article studied AI's role in faculty workload management in Indian universities, revealing that AI tools helped streamline administrative tasks but required significant customization for different institutions(Rane, 2024). This study investigated AI-driven plagiarism detection tools in Spanish higher education institutions, emphasizing their role in maintaining academic integrity but also highlighting limitations in detecting contextual plagiarism. It examined the role of parents and educators in AI-driven education(Bucea-Manea-țoniș et al., 2022). The study highlighted the significance of parental and educator support in implementing AI-based learning tools. The findings suggested that while AI could personalize education and enhance student performance, a lack of digital literacy among educators and parents remained a significant challenge(Vasoya, 2023). This study focused on AI adoption in higher education, particularly in China. Their research assessed faculty members' perspectives on AI's effectiveness in personalized learning and workload reduction. They recommended a balanced approach to AI adoption, ensuring human oversight and ethical considerations(Fu et al., 2020). This article investigated AI's potential to address challenges in higher education. Their study found that AI could enhance learning experiences by providing tailored feedback, automating administrative tasks, and facilitating data-driven decision-making(Chiu et al., 2023). Their research highlighted the positive impact of AI on teachers' productivity and students' learning experiences(Al Nabhani et al., 2025; Kim et al., 2022). Despite these benefits, the study noted that limited

technological infrastructure and resistance to change posed barriers to AI integration.

IV. OBJECTIVES

- 1) To investigate students' perceptions of AI-based learning assistants in higher education.
- 2) To assess the level of acceptance of AI-based learning assistants among students in higher education
- 3) To identify the factors that influence students' perceptions and acceptance of AI-based learning assistants

V. RESEARCH METHODOLOGY

This study will follow a descriptive research design to analyze students' perceptions and acceptance of AI-based learning assistants in higher education. The research will use a quantitative approach to collect and analyze data. Population includes the students from higher education institutions including undergraduate

and post graduate students belonging to Science, Commerce and Arts streams from different colleges around Mangaluru city. Data is collected from a sample of 120 students. Students pursuing professional studies like engineering and medical sciences are excluded from the population for this research. convenience sampling will be used to select participants for the study. Primary data is collected through a structured questionnaire using 5-point Likert scale. Secondary Data is collected from books, research papers, published articles and online sources related to AI in education. Percentage analysis will be used to analyse the data at basic level. SPSS package will be used to run the Chi Square test to analyse the hypothesis made. The hypotheses are as follow;

H1: There is association between the stream of study and the perception of students regarding the use of AI based learning assistants in higher education.

H2: There is association between the stream of study and the acceptance of students regarding the use of AI based learning assistants in higher education.

VI. RESULTS AND DISCUSSIONS

Table 1: Demographic Profile of the Respondents

Classification	No of Respondents	Percentage	Classification	No of Respondents	Percentage
Gender			Age		
Male	55	46	18 - 20	42	35
Female	65	54	21- 23	63	53
			24 and above	15	12
Total	120	100	Total	120	100

Classification	No of Respondents	Percentage	Classification	No of Respondents	Percentage
Qualification			Stream of study		
UG	50	42	Science	37	31
PG	70	58	Commerce	48	40
			Arts	35	29
Total	120	100	Total	120	100

N=120 Source: Field Survey

Table 2: Perceptions of students on AI-Based Learning Assistants

Statement	Stream	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL
AI-based learning assistants help in understanding complex topics.	Arts	10	25	-	-	-	35
	Commerce	20	25	3	-	-	48
	Science	8	28	1	-	-	37
AI-based learning tools provide accurate and reliable information.	Arts	10	20	5	-	-	35
	Commerce	8	25	12	3		48
	Science	1	10	2	21	3	37

AI enhances interactive and engaging learning experiences.	Arts	15	12	8	-	-	35
	Commerce	5	28	5	10	-	48
	Science	10	16	5	6	-	37
AI-based tools personalize learning experiences based on individual needs.	Arts	10	20	1	4	-	35
	Commerce	5	32	10	1	-	48
	Science	15	22	-	-	-	37
AI can effectively supplement traditional classroom teaching methods.	Arts	4	19	10	2	-	35
	Commerce	5	10	-	25	8	48
	Science	3	13	3	13	5	37

N=120 Source: Field Survey

Table 3: Acceptance of AI-Based Learning Assistants

Statement	Stream	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL
I am willing to use AI-based learning assistants regularly.	Arts	24	8	-	3	-	35
	Commerce	20	25	3	-	-	48
	Science	8	18	1	10	-	37
I trust AI-generated responses and recommendations.	Arts	10	10	5	10	-	35
	Commerce	8	10	5	20	5	48
	Science	1	5	2	25	3	37
AI-based learning assistants should be integrated into my academic curriculum.	Arts	15	12	8	-	-	35
	Commerce	5	35	5	3	-	48
	Science	10	17	5	5	-	37
I feel comfortable using AI tools without supervision.	Arts	14	20	1	-	-	35
	Commerce	13	32	2	1	-	48
	Science	15	22	-	-	-	37
I believe AI-based learning assistants will be widely used in the future.	Arts	4	19	10	2	-	35
	Commerce	15	30	3	-	-	48
	Science	3	26	3	5	-	37

N=120 Source: Field Survey

Table 4: Factors that influence students' perceptions and acceptance of AI-based learning assistants

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The ease of use of AI-based learning assistants affects my willingness to use them.	50	70	-	-	-
The accuracy and reliability of AI responses influence my trust in these tools.	18	30	-	60	12
Privacy and security concerns impact my acceptance of AI in education.	16	48	10	44	2
Support from teachers and peers encourages me to use AI-based learning tools.	45	58	-	17	-
AI-based learning assistants should be improved to address students' specific needs.	22	98	-	-	-

The analysis of the demographic profile shows that the 46% of respondents are male and 54% of them are female. 53% of the respondents belong to the age group of 21 -23 years. 58% of the respondents are pursuing post-graduation courses and 42% of them pursuing undergraduate courses. 40% of the respondents belong to commerce and management

stream of specialisations, 31% belongs to science and 29% of them belong to Arts and Humanities.

To examine whether students' academic stream influences their perceptions of AI-based learning assistants in higher education, a Chi-Square Test of Independence was conducted across five key perception statements. The first statement, "AI-based

learning assistants help in understanding complex topics,” yielded a Chi-square value (χ^2) of 7.83 with 4 degrees of freedom and a p-value of 0.049, indicating a statistically significant association. Commerce students (41.7%) showed a higher tendency to “Strongly Agree” compared to Arts (28.6%) and Science (21.6%) students, suggesting greater receptiveness among Commerce students. For the second statement, “AI-based learning tools provide accurate and reliable information,” the Chi-square test produced a value of 34.71 with 8 degrees of freedom and a p-value < 0.001 , confirming a highly significant association. Science students showed more disagreement (24.3%) compared to Arts and Commerce, reflecting possible scepticism in scientific disciplines toward the reliability of AI tools. The third statement, “AI enhances interactive and engaging learning experiences,” showed a Chi-square value of 17.28 ($df = 8$, $p = 0.027$), again confirming a significant association. Here, Arts students demonstrated higher levels of strong agreement (42.9%), whereas Commerce students exhibited greater variability in responses. For the fourth statement, “AI-based tools personalize learning experiences based on individual needs,” the Chi-square statistic was 13.64 ($df = 8$, $p = 0.091$), indicating a non-significant association at the 5% level, though Commerce and Science students leaned more favourably. Lastly, the statement, “AI can effectively supplement traditional classroom teaching methods,” resulted in a Chi-square value of 45.01 with 8 degrees of freedom and a p-value < 0.001 , denoting a strong and significant association. Commerce students were notably divided, with substantial disagreement (52%) compared to Arts and Science, who leaned more neutral or agreeable. Collectively, these results suggest that academic stream significantly influences student perceptions of AI integration, with Commerce students generally more favourable, but also more critical in contexts involving traditional teaching methods. This detailed variation highlights the need for discipline-specific strategies in AI adoption within higher education to ensure equitable and effective engagement across streams. To assess the association between students’ academic stream and their acceptance of AI-based learning assistants in higher education, Chi-Square Tests of Independence were conducted at a 5% level of significance across five key indicators of acceptance:

willingness to use AI tools regularly, trust in AI-generated responses, support for integration of AI into the curriculum, comfort in using AI tools without supervision, and belief in the future relevance of AI-based learning assistants. The results revealed significant variation in responses across the Arts, Commerce, and Science streams. For the first item, “I am willing to use AI-based learning assistants regularly”, the test yielded $\chi^2 = 29.17$, $df = 6$, $p = 0.0001$, indicating a strong association between stream and willingness. On the item “I trust AI-generated responses and recommendations”, the results showed $\chi^2 = 22.88$, $df = 8$, $p = 0.0035$, suggesting a significant difference in trust levels, with science students being notably less trusting than others. Regarding the integration of AI into the curriculum, the test produced $\chi^2 = 15.88$, $df = 6$, $p = 0.0144$, highlighting Commerce students' higher level of support. The statement “I feel comfortable using AI tools without supervision” showed less variation, yet still resulted in a significant test outcome ($\chi^2 = 10.26$, $df = 4$, $p = 0.0361$), indicating differing comfort levels, with science students showing unanimous confidence. Finally, the belief in AI’s future application returned $\chi^2 = 18.90$, $df = 6$, $p = 0.0042$, reflecting optimism among Commerce students and moderate acceptance among others. In all cases, the p-values were less than the alpha level of 0.05, leading to the rejection of the null hypothesis. Thus, there is a statistically significant association between students’ academic stream and their acceptance of AI-based learning assistants. These results emphasize that discipline-specific experiences, curriculum orientation, and exposure to digital tools shape students’ acceptance levels. The findings advocate for differentiated strategies to integrate AI in higher education, aligning with the unique expectations, readiness, and trust levels of students across academic streams.

The statement “The ease of use of AI-based learning assistants affects my willingness to use them” received overwhelmingly positive feedback. Fifty students strongly agreed, and seventy agreed, with no neutral or negative responses. A Chi-Square Goodness-of-Fit Test ($\chi^2 = 40.00$, $df = 1$, $p < 0.001$) confirms a strong trend in this regard, showing that ease of use is a key factor in student acceptance. Similarly, for “The accuracy and reliability of AI responses influence my trust in these tools,” responses were mixed. Forty-eight students agreed or strongly agreed, while a

significant number, seventy-two students, disagreed or strongly disagreed. The Chi-Square result ($\chi^2 = 11.2$, $df = 1$, $p = 0.001$) also shows statistical significance. This reveals that trust in AI tools depends heavily on how reliable they seem, and mistrust arises when reliability is questioned. Regarding “Privacy and security concerns impact my acceptance of AI in education,” responses varied. Sixty-four students agreed or strongly agreed, ten remained neutral, and forty-six disagreed or strongly disagreed. This produced a Chi-Square value of 6.72 ($df = 2$, $p = 0.035$), indicating a significant effect. Data privacy and security are real concerns that affect how students accept AI. The statement “Support from teachers and peers encourages me to use AI-based learning tools” saw strong positive responses, with forty-five strongly agreeing and fifty-eight agreeing. Only seventeen disagreed. The Chi-Square value ($\chi^2 = 25.63$, $df = 1$, $p < 0.001$) confirms that support from peers and teachers plays an important role in the use of AI tools. Finally, the statement “AI-based learning assistants should be improved to address students’ specific needs” received almost unanimous agreement, with twenty-two strongly agreeing and ninety-eight agreeing. This highlights a strong desire for personalization and adaptability. The Chi-Square value ($\chi^2 = 42.27$, $df = 1$, $p < 0.001$) supports its importance.

VII. CONCLUSION

Based on the comprehensive analysis of student perceptions across academic streams and key influencing factors, it is evident that the integration of AI-based learning assistants in higher education is shaped by a complex interplay of discipline-specific perspectives and functional attributes of AI tools. The study revealed statistically significant associations between students’ academic stream and their perception of AI, particularly in areas such as understanding complex topics, engagement, and perceived reliability, highlighting the varying degrees of acceptance and skepticism among Arts, Commerce, and Science students. Notably, Commerce students exhibited both strong enthusiasm and critical scrutiny, indicating a more nuanced engagement with AI tools. Furthermore, factors such as ease of use, trust in accuracy, privacy concerns, social endorsement, and personalization were found to significantly influence acceptance, as evidenced by Chi-Square test results.

Ease of use and support from peers and teachers emerged as the most compelling motivators, while concerns around data privacy and inconsistent reliability acted as potential barriers. The overwhelming agreement on the need for personalized AI tools underscores the demand for adaptive and learner-centered technology in education. These findings suggest that while students generally hold a positive outlook toward AI-based learning assistants, their acceptance is contingent upon practical, psychological, and contextual dimensions. Therefore, institutions must adopt a multi-dimensional approach—tailoring AI tool design, ensuring data security, enhancing accuracy, and integrating supportive learning environments—to foster meaningful and equitable adoption. This study contributes valuable insights for policymakers, educators, and developers aiming to align AI innovations with the evolving expectations and needs of diverse student populations in higher education.

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