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A STUDY ON AWARENESS OF ARTIFICIAL INTELLIGENCE AMONG UNDERGRADUATE STUDENTS

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Abstract: Artificial intelligence (AI) is revolutionizing numerous fields, including higher education, by offering innovative tools and techniques that enhance learning, assessment, and skill development. This research investigates the awareness, perceptions, and competencies of undergraduate students in the Kathmandu Valley concerning AI. The study aims to evaluate students' understanding of AI, identify knowledge gaps, and recommend curriculum enhancements to align education with industry demands. A quantitative research design was employed, collecting data from 123 students across diverse colleges using a structured Likert-scale questionnaire. The findings reveal that while many students recognize AI's potential in streamlining academic tasks and shaping future careers, there are significant gaps in their understanding and practical application of AI technologies. The study highlights the dual nature of AI, which can serve as both an enabler of efficiency and a source of apprehension, particularly concerning job displacement and ethical implications. It also identifies disparities in access to AI tools due to socioeconomic factors, underscoring the importance of addressing the digital divide. The research concludes that integrating AI-related content into higher education curricula is critical for preparing students for an AI-driven workforce. By fostering AI literacy, ethical awareness, and hands-on skills, institutions can empower students to leverage AI responsibly and effectively. The novelty of this study lies in its context-specific approach, exploring AI's impacts on undergraduate education in a developing region, and providing actionable insights for curriculum development and policy-making in the age of AI.

- Artificial Intelligence (AI) is increasingly transforming the educational landscape by enabling students to access information, generate content, and enhance learning efficiency through tools such as ChatGPT and Google Gemini. While AI offers significant academic support, it also raises concerns related to over-dependence, academic integrity, and critical thinking skills. With the rapid global growth of AI, it is important to examine its penetration among students in less developed regions such as the North Andhra region, India. The present study aims to assess the level of awareness, patterns of utilization, and perceptions of AI among undergraduate students in this region, focusing on academic usage and ethical considerations. A descriptive survey was conducted among approximately 350 undergraduate students (aged 17–18 years) using a structured questionnaire covering AI awareness, usage patterns, ethical perceptions, and training needs. The sample included a significant proportion of rural students (63.43%), providing insights into AI adoption in less developed contexts. Data were

analyzed using percentage and frequency methods. The results indicate a high level of awareness and frequent use of AI tools among students, with platforms like ChatGPT being the most commonly used. AI is primarily utilized for understanding concepts and saving time in academic work. However, the findings also reveal concerns regarding over-dependence, instances of direct use of AI-generated content without modification, and limited clarity about academic ethics and plagiarism. The study concludes that while AI has become an integral part of students' academic activities, there is a significant need for structured guidance and training to promote its responsible and ethical use, highlighting the importance of integrating AI literacy and ethical guidelines into higher education practices.

Keywords: Artificial Intelligence (AI), Undergraduate Students, AI Awareness, AI Utilization.

Introduction: Artificial Intelligence (AI) has emerged as one of the most influential technological developments of the 21st century, with significant impact across sectors such as healthcare, industry, communication, and education. In the field of education, AI is increasingly being used to support teaching and learning through intelligent tutoring systems, personalized learning platforms, automated content generation, language assistance, assessment support, and academic problem-solving tools. Artificial Intelligence has emerged as one of the most transformative technologies in the field of education. It refers to the ability of machines and software systems to simulate human intelligence processes such as learning, reasoning, problem-solving, and decisionmaking. In recent years, AI tools have gained wide acceptance in higher education due to their ability to support personalized learning, academic writing, language enhancement, dataanalysis, and content generation. Tools such as ChatGPT, Grammarly, Google Gemini, and AIbased tutoring systems are increasingly used by students for assignments, research, and collaborative learning. Undergraduate students, being digital natives, are more likely to adopt emerging technologies in their academic activities. Awareness of AI tools plays a crucial role in enabling effective and ethical use of these technologies. Similarly, the frequency and purpose of usage determine the educational benefits derived from AI integration. Several recent studies have emphasized that awareness and positive attitudes toward AI significantly influence students' usage patterns. Need and Significance. Therefore, it becomes essential to examine not only the level of awareness and usage of AI among students but also their perceptions, practices, and preparedness for ethical and effective use.

Review of Literature: A literature review talks about information that has been published in a certain field and occasionally information that has been published in a specific field within a specific time frame. Reviews of related literature gives us a quick reference on a certain subject. Reviews of previous research also offer a strong foundation for the analysis in a research study. **Chhabi Ratna Tripathi (2024)** studied the level of awareness of Artificial Intelligence among undergraduate students and the findings showed that many students have different level of awareness and significant gaps in their practical application of Artificial Intelligence.

Parthiban and Jai Ganesh (2024) studied the Awareness of Artificial Intelligence tools among prospective teachers and found that the prospective teachers have a moderate level of Awareness of Artificial Intelligence tools.

Mirza Shahzan Asagar (2025) studied the Awareness, Usage and Ethical concerns of Artificial Intelligence in academic research among research scholars in different academic fields. It was found that the research scholars were more familiar with Artificial Intelligence tools and comfortable using basic Artificial tools.

Significance of the study: The present study is highly needed in the context of the rapidly changing educational landscape, where higher education is becoming increasingly technology-driven and digitally oriented. In recent years, Artificial Intelligence has emerged as one of the most influential innovations in the field of education. AI tools are now widely used by undergraduate students for a variety of academic purposes such as content generation, grammar correction, language translation, research assistance, coding support, data analysis, problem-solving, and personalized learning support. Tools such as Chat GPT, Grammarly, Google Gemini, and other AI-powered applications are gradually becoming integral parts of students' learning experiences. In the present era of digital transformation, students are expected not only to use technology but also to develop AI literacy, critical thinking, and responsible digital practices. However, the extent to which undergraduate students are aware of these AI tools, understand their functions, and use them effectively for academic purposes remains an important area of educational research. Many students may use AI tools without fully understanding their educational benefits, limitations, ethical implications, and issues related to academic integrity. Furthermore, the study contributes to the growing body of literature on AI adoption in educational settings and helps identify differences in awareness and usage among students based on variables such as gender, locality, and stream of study. The results of the study may also serve as a foundation for future research on AI-based teaching-learning practices and digital education reforms.

Objectives of the study: The present study was conducted to attain the following objectives:

1. To study the level of awareness of Artificial Intelligence Tools on under graduate students.
2. To find out the significant difference in the level of Artificial Intelligence Tools on under graduate students based on gender, locality and stream.

Hypotheses of the study: The study was designed to test the following hypotheses:

1. There is a high level of awareness of Artificial Intelligence Tools among under graduate students.
2. There is significant difference between male and female undergraduate students in their awareness of Artificial Intelligence Tools.
3. There is significant difference between rural and urban undergraduate students in their awareness of Artificial Intelligence Tools.
4. There is significant difference between science and arts undergraduate students in their awareness of Artificial Intelligence Tools.

Methodology:

Research Design The present study adopts a descriptive survey research design to examine the awareness, utilization, and perceptions of Artificial Intelligence Tools among undergraduate students. This design is appropriate as it enables the systematic collection and analysis of data related to students' knowledge, usage patterns, and attitudes toward Artificial Intelligence Tools.

Sample of the Study: The study was conducted among undergraduate students in Haveri District of Karnataka . The sample for the study consisted of 200 undergraduate students studying in various arts and science colleges. The respondents were selected to represent students from different academic disciplines and backgrounds, thereby ensuring adequate representation of the undergraduate population. Thus, the sample size of the study was $N = 200$, which is considered appropriate for statistical analysis using the t-test technique and for drawing valid conclusions in educational research..

Scope and Limitations: The study is limited to undergraduate students from the Haveri district of Karnataka State and is based on self-reported data. Therefore, the findings may not be fully generalizable to other regions or populations. However, the study provides valuable insights into Artificial Intelligence adoption at various level of educational contexts.

Tools Used : The research tool namely “Awareness of Artificial Intelligence Tools” was developed by the investigator as multiple choice questions to assess the awareness of AI tools relevant to education. The final form of the tool has 50 items with 4 options. The tool was administered among the sample and the data were collected.

Statistical Techniques Used: The collected data were analyzed using descriptive statistical methods, primarily percentage analysis and frequency distribution. The results were organized and interpreted according to the predefined research questions to identify patterns, trends, and key insights related to awareness of AI Tools and utilization. Descriptive statistics were employed to find out mean, standard deviation, etc. to study the nature of data and Inferential statistics such as t-test was employed to study the significant variation in the collected data.

Data Analysis and Interpretation: Analysis of the data has been done by using statistical techniques such as Percentage, Mean, Standard Deviation. ‘t’ test for testing the significance of two means.

Hypothesis-1: There is a high level of awareness of Artificial Intelligence Tools among under graduate students.

Table 1 : Level of Artificial Intelligence Tools among under graduate students.

Level of awareness	Number of students	Percentage
High	41	20.42
Moderate	125	62.43
Low	34	17.15
Total	200	100

The above table shows the distribution of under graduate students based on their level of awareness about Artificial Intelligence Tools. It is observed that 20.42 percent of under graduate students have high level of awareness about Artificial Intelligence Tools. 62.43 percent of under graduate students have moderate level of awareness about Artificial Intelligence Tools and 17.15 percent of under graduate students have low level of awareness about Artificial Intelligence Tools. Hence it may be concluded that in the present study majority of under graduate students have moderate level of awareness about Artificial Intelligence Tools. Hence the hypothesis is rejected. This implies that although students are familiar with AI Tools there is still a need to enhance their awareness through appropriate training in educational institution.

Hypothesis-2 : There is significant difference between male and female under graduate students in their awareness of Artificial Intelligence Tools.

Table 2 : Mean score difference in the awareness of AI Tools among the under graduate students with respect to their gender.

Variables	Group	N	Mean	SD	‘t’ Value	Level of Significance
Gender	Male	90	169.84	18.05	1.72	NS
	Female	110	165.49	18.91		

NS=Not Significant at 0.05 level

The above table reveals that the mean score of male under graduate students is 169.84 and female under graduate students is 165.49. Since the calculated 't' value 1.72 is not significant at the 0.05 level. Hence the difference between male and female under graduate students in their level of Awareness of Artificial Intelligence Tools is statistically not significant and the null hypothesis is accepted. Therefore it is inferred that there is no significant difference existed in the level of Awareness of Artificial Intelligence Tools between Male & Female under graduate students.

Hypothesis-3 : There is significant difference between rural and urban under graduate students in their awareness of Artificial Intelligence Tools.

Table 3 : Mean score difference in the awareness of AI Tools among the under graduate students with respect to their locality.

Variables	Group	N	Mean	SD	't' Value	Level of Significance
Locality	Rural	100	162.18	17.94	3.94	S
	Urban	100	172.72	18.31		

S= Significant at 0.05 level

The above table reveals that the mean score of rural under graduate students is 162.18 is slightly lesser than that of urban under graduate students. (172.71) Since the calculated 't' value 3.94 is significant at the 0.05 level. Hence the difference between rural and urban under graduate students in their level of Awareness of Artificial Intelligence Tools is statistically significant and the null hypothesis is rejected. This indicates that urban under graduate students processes a higher level of Awareness of Artificial Intelligence Tools than their rural counterparts.

Hypothesis-4 : There is significant difference between science and arts under graduate students in their awareness of Artificial Intelligence Tools.

Table 4 : Mean score difference in the awareness of AI Tools among the under graduate students with respect to their stream.

Variables	Group	N	Mean	SD	't' Value	Level of Significance
Stream	Science	90	152.31	17.29	2.14	S
	Arts	110	147.06	16.53		

S= Significant at 0.05 level

The above table reveals that the mean score of science under graduate students is 152.31 is slightly higher than that of arts under graduate students. (147.06) Since the calculated 't' value 2.14 is significant at the 0.05 level. Hence the difference between science and arts under graduate students in their level of Awareness of Artificial Intelligence Tools is statistically significant and the null hypothesis is rejected. This indicates that science under graduate students processes a higher level of Awareness of Artificial Intelligence Tools than their arts counterparts.

Major Findings:

1. The majority of under graduate students have moderate level of awareness about Artificial Intelligence Tools.
2. There is no significant difference existed in the level of Awareness of Artificial Intelligence Tools between Male & Female under graduate students .
3. There is significant difference existed in the level of Awareness of Artificial Intelligence Tools between rural & urban under graduate students .
4. There is significant difference existed in the level of Awareness of Artificial Intelligence Tools between Science & Arts under graduate students.

Recommendations: The analysis revealed several important educational recommendations:

- * The findings of the study highlight the need for strengthening Artificial Intelligence awareness among undergraduate students.
- * Educational institutions should provide structured guidance on the effective and ethical use of AI tools in academic work.
- * It is recommended that colleges introduce training programs and workshops on AI applications in learning, with emphasis on academic integrity, plagiarism awareness, and responsible usage practices. In this context, the role of teachers is evolving from traditional knowledge providers to facilitators and mentors, guiding students in the critical and ethical use of AI tools.
- * Institutions may consider developing clear guidelines or policies for AI usage in academic assignments to ensure transparency and accountability.
- * Integrating AI literacy into the curriculum can further help students develop critical thinking skills and prepare them for future academic and professional environments.
- * Educational planning should be grounded in actual student performance data to support a more responsive and inclusive education system.

Conclusion: According to the findings of the present study, it was depicted that under graduate students need to develop and enhance their level of Awareness of Artificial Intelligence Tools for good learning and academic achievement. The present study examined the awareness, utilization, and perceptions of Artificial Intelligence Tools among undergraduate students. The findings reveal that AI has achieved a high level of penetration in students' academic activities, with widespread awareness and frequent usage of AI tools, particularly for understanding concepts and improving learning efficiency. At the same time, the study identifies important concerns related to over-dependence on AI, direct use of AI-generated content without modification, and limited awareness of academic ethics and plagiarism. These findings indicate that while students are active users of AI technologies, their depth of understanding regarding responsible and ethical usage remains moderate. The study highlights the need for a balanced approach toward AI integration in education, where students are encouraged to use AI as a supportive learning tool while maintaining academic integrity and independent thinking. Strengthening AI literacy through structured guidance, training programs, and institutional policies can play a crucial role in ensuring effective and responsible use of modern technology for progress.

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