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ARTIFICIAL INTELLIGENCE AND INCLUSIVE LEARNING: A STUDY AMONG COLLEGE STUDENTS IN COIMBATORE

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Abstract : Artificial Intelligence (AI) is changing the way students learn by making education more interactive and accessible. This study aims to examine the awareness and usage of AI tools and their relationship with inclusive learning among college students in Coimbatore. Primary data were collected from 150 students using a structured questionnaire. The data were analyzed using the Independent Samples t-test and Pearson Correlation Analysis. The findings show that there is no significant difference in AI awareness and usage between male and female students. The study also found a positive and significant relationship between AI usage and inclusive learning. The study concludes that Artificial Intelligence supports inclusive learning by improving students' learning experiences and encouraging equal learning opportunities in higher education.

IndexTerms - Artificial Intelligence, Inclusive Learning, College Students, AI Tools.

I. INTRODUCTION

Artificial Intelligence (AI) is becoming an important part of the education system by improving the teaching and learning process. AI tools such as ChatGPT, Grammarly, and virtual learning assistants help students learn more effectively and independently. Inclusive learning focuses on providing equal learning opportunities for all students, regardless of their backgrounds or abilities. The use of AI can make learning more accessible, personalized, and engaging for students. Therefore, this study examines the awareness and usage of Artificial Intelligence and its relationship with inclusive learning among college students in Coimbatore.

II. REVIEW OF LITERATURE

Holmes et al. (2024): The study found that Artificial Intelligence enhances personalized learning and improves students' engagement and accessibility in higher education.

Zawacki-Richter et al. (2023): The study reported that AI-supported learning tools help create inclusive learning environments by providing personalized feedback and learning support for students.

Luckin (2022): The study concluded that Artificial Intelligence improves learning outcomes by supporting adaptive learning and increasing equal educational opportunities for diverse learners.

III. STATEMENT OF THE PROBLEM

Artificial Intelligence is increasingly being used in higher education to improve students' learning experiences. However, the level of awareness and usage of AI tools may differ among college students, which can affect the effectiveness of inclusive learning. Many students are still unaware of how AI can support equal learning opportunities and academic success. Understanding the relationship between AI usage and inclusive learning is important for educational institutions to improve teaching practices. Therefore, this study aims to examine the awareness, usage, and influence of Artificial Intelligence on inclusive learning among college students in Coimbatore.

IV. SCOPE OF THE STUDY

The study focuses on the awareness and usage of Artificial Intelligence tools among college students in Coimbatore. It examines how Artificial Intelligence supports inclusive learning by improving students' learning experiences and participation. The study is based on primary data collected from college students through a structured questionnaire. The findings are useful for educational institutions, faculty members, and policymakers in promoting AI-enabled learning practices. The study is limited to college students in Coimbatore and reflects their perceptions of Artificial Intelligence and inclusive learning.

Objectives of the Study

1. To examine the level of awareness and usage of Artificial Intelligence tools among college students in Coimbatore.
2. To analyze the impact of Artificial Intelligence on inclusive learning among college students in Coimbatore.

V. RESEARCH METHODOLOGY

This study is based on a descriptive research design and was conducted among college students in Coimbatore. Primary data were collected from 150 respondents using a structured questionnaire through simple random sampling. The collected data were analyzed using SPSS with the help of the Independent Samples t-test and Pearson Correlation Analysis.

Data Analysis and Interpretation

Table1- Independent Samples t-Test for Awareness and Usage of Artificial Intelligence Tools Based on Gender

Null Hypothesis (H_0): There is no significant difference in the awareness and usage of Artificial Intelligence tools between male and female college students in Coimbatore.

Alternative Hypothesis (H_1): There is a significant difference in the awareness and usage of Artificial Intelligence tools between male and female college students in Coimbatore.

Group Statistics

Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	75	4.18	0.58	0.067
Female	75	4.02	0.61	0.070

Independent Samples Test

Levene's Test for Equality of Variances	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI Lower	95% CI Upper
Equal variances assumed	0.284	0.595	1.651	148	0.101	0.160	0.097	-0.032	0.352

Interpretation

The Independent Samples t-test was conducted to examine whether there was a significant difference in the awareness and usage of Artificial Intelligence tools between male and female college students. The results indicate that the significance value ($p = 0.101$) is greater than 0.05, showing that the difference is not statistically significant. Hence, the null hypothesis is accepted, indicating that male and female students have a similar level of awareness and usage of Artificial Intelligence tools in Coimbatore.

Table 2 - Correlation between Artificial Intelligence Usage and Inclusive Learning Hypothesis

Null Hypothesis (H_0): There is no significant relationship between Artificial Intelligence usage and inclusive learning among college students in Coimbatore.

Alternative Hypothesis (H_1): There is a significant relationship between Artificial Intelligence usage and inclusive learning among college students in Coimbatore.

Variables	Artificial Intelligence Usage	Inclusive Learning
Artificial Intelligence Usage	1	.682**
Sig. (2-tailed)	-	.000
N	150	150
Inclusive Learning	.682**	1
Sig. (2-tailed)	.000	-
N	150	150

Note: Correlation is significant at the 0.01 level (2-tailed).

Interpretation

Pearson correlation analysis was conducted to examine the relationship between Artificial Intelligence usage and inclusive learning among college students in Coimbatore. The correlation coefficient ($r = 0.682$) indicates a strong positive relationship between the two variables. Since the significance value ($p = 0.000$) is less than 0.01, the relationship is statistically significant. Therefore, the null hypothesis is rejected, indicating that increased usage of Artificial Intelligence is positively associated with inclusive learning among college students.

Findings

1. The Independent Samples t-test revealed that there is no significant difference in the awareness and usage of Artificial Intelligence tools between male and female college students in Coimbatore ($p > 0.05$).
2. The Pearson correlation analysis revealed a strong and statistically significant positive relationship between Artificial Intelligence usage and inclusive learning among college students in Coimbatore ($r = 0.682$, $p < 0.01$).

Suggestions

1. Colleges can organize regular workshops to improve students' awareness and effective use of Artificial Intelligence tools.
2. AI-based learning platforms can be integrated into classroom teaching to support inclusive learning.
3. Faculty members can encourage students to use AI tools for assignments, research, and skill development.
4. Equal access to AI technologies and digital learning resources can be provided to all students.
5. Training programs on the ethical and responsible use of Artificial Intelligence can be conducted to promote safe and effective learning.

VI. CONCLUSION

The study concludes that college students in Coimbatore have a good level of awareness and usage of Artificial Intelligence tools. The findings also reveal that Artificial Intelligence has a significant positive relationship with inclusive learning, indicating that AI enhances accessibility, engagement, and learning opportunities for students. Therefore, adopting AI-enabled learning practices can contribute to creating a more inclusive and effective educational environment in higher education institutions.

VII. REFERENCES

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