

A STUDY ON THE IMPACT OF AI APPS USAGE AMONG STUDENTS

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ABSTRACT:

Artificial Intelligence (AI) applications have become integral to modern education, offering students tools to enhance learning, productivity, and time management. This study explores the impact of AI app usage among students, analyzing its effects on academic performance, study habits, and overall learning experiences. Through a survey of 140 respondents in Coimbatore, key findings indicate widespread adoption of AI tools, with ChatGPT being the most frequently used. The research highlights improvements in academic performance, confidence, and time management among students while also identifying concerns such as over-reliance, difficulties in understanding AI-generated outputs, and ethical considerations. Statistical analysis (Chi-Square tests) suggests no significant correlation between students' education levels and AI usage purposes or between age groups and challenges faced. The study recommends AI literacy programs, ethical guidelines, and a balanced approach to AI integration in education.

INTRODUCTION:

Artificial Intelligence (AI) has emerged as a transformative force in various fields, including education. With the proliferation of AI-driven applications, students now have access to tools that can assist in learning, problem-solving, time management, and creativity. From personalized learning platforms to language translation apps, AI is reshaping how students approach education. The integration of AI apps has opened up new opportunities for enhancing productivity and academic performance. However, it has also raised concerns regarding over-reliance, ethical use, and the impact on critical thinking skills. Understanding the influence of AI app usage among students is crucial for educators, policymakers, and researchers to maximize the benefits while mitigating potential drawbacks.

This study aims to explore the impact of AI app usage on students by examining its effects on academic achievement, study habits, and overall learning experiences. By analyzing the positive and negative implications, this research seeks to provide insights into how AI can be effectively integrated into education to support holistic student development.

STATEMENT OF THE PROBLEM :

The rapid advancement of Artificial Intelligence (AI) technologies has introduced a variety of AI-driven applications tailored to assist students in their academic journey. These applications, ranging from virtual tutors and language learning tools to essay generators and problem-solving platforms, have the potential to revolutionize education. However, their widespread adoption raises critical questions about their actual impact on students' academic performance, learning habits, and cognitive development. While AI apps offer benefits such as personalized learning experiences, improved accessibility, and enhanced efficiency, they may also lead to challenges such as dependency, reduced critical thinking, and ethical concerns around misuse. The lack of a clear understanding of these impacts makes it difficult for educators, parents, and policymakers to determine the appropriate role of AI in education.

This study seeks to address the gap by investigating the impact of AI applications on students, analyzing both the advantages and the potential risks associated with their usage. The research aims to identify the extent to which these technologies influence academic outcomes, learning strategies, and overall educational experiences.

OBJECTIVES OF THE STUDY:

1. To identify the extent of AI usage among students.
2. To evaluate the impact of AI tools on academic performance and learning habits.

REVIEW OF THE LITERATURE:

Brown, Smith, and Lee (2018) examined how AI-powered tools contribute to student productivity by streamlining study schedules, organizing tasks, and minimizing distractions. Their study found that AI-based productivity apps improved students' ability to manage their time effectively, leading to better academic performance and reduced procrastination. However, they also highlighted concerns regarding students' dependence on AI for task organization, which may reduce their self-regulation skills in the long term.

Chen, Wang, and Zhao (2022) conducted a comparative study on AI-assisted learning and its impact on academic performance. Their research found that students who regularly used AI-powered tutoring systems showed significant improvements in problem-solving, comprehension, and retention of complex concepts. The study also indicated that AI-enhanced learning experiences helped students with different learning styles, making education more accessible and inclusive. However, concerns were raised about over-reliance on AI, which could lead to reduced independent thinking.

Clark and Miller (2021) explored the relationship between AI-assisted learning and critical thinking skills. Their study suggested that while AI applications can enhance knowledge acquisition and provide instant feedback, they may also discourage deep analytical thinking if students rely too heavily on automated responses. The authors emphasized the need for balanced AI usage, where technology supports rather than replaces traditional cognitive skill development.

Garcia and Lin (2019) examined the broader implications of AI-driven education, discussing both its benefits and potential risks. Their research highlighted that AI applications enhance student engagement, improve learning efficiency, and offer real-time feedback. However, they also pointed out risks such as data privacy concerns, algorithmic biases, and the potential for AI to create passive learning behaviors. Their study emphasized the importance of ethical AI use in education and the need for regulatory measures to ensure responsible AI integration.

Holmes, Luckin, and Griffiths (2019) analyzed the promise and challenges of intelligent tutoring systems (ITS) in education. Their study found that ITS can significantly enhance learning by adapting to individual students' needs, providing targeted support, and identifying learning gaps. However, they also acknowledged challenges such as the limitations of AI in understanding human emotions and the risk of reducing teacher-student interaction. The study called for a hybrid approach, where AI supports educators rather than replacing traditional teaching methods.

RESEARCH METHODOLOGY:

Research design:

This research is based on descriptive research design which aims to accurately and systematically describe a population, situation or phenomenon. It includes survey.

SAMPLE DESIGN:

Sampling technique:

The sampling technique used for this research is convenience sampling.

Population:

The target population is individuals who are using AI apps.

Sample size:

A total of 140 respondents are taken as samples for data collection.

METHOD OF DATA COLLECTION:

The data collected for the research are:

Primary data:

The primary data collected for the research has been done by using questionnaires methods.

Secondary data:

The secondary data which refers to the facts and information already been collected. Secondary data are collected by using articles, websites, journals, magazines, books etc...

AREA OF THE STUDY:

The study is focused on Coimbatore city, The Manchester of south.

LIMITATIONS:

- 1] Data collected by using convenience sampling may be inaccurate as others perceptions are not same.
- 2] As this research covers only shorter-periods we can't get data of overall perception of the among the users.

DATA ANALYSIS AND INTERPRETATION:

This chapter deals with analysis and interpretation of the study on the topic "A STUDY ON THE IMPACT OF AI APPS USAGE AMONG STUDENTS" is presented based on a sample of 140 respondents. This collected data are classified and tabulated

Percentage analysis :

Chi square:

PERCENTAGE ANALYSIS :

Table no 1 : Age

Particular	no . Of respondents	percentage
below 18	15	10.70%
18 -22	106	75.70%
23 -27	14	10%
above 27	5	3.60%
Total	140	100.00%

INTERPRETATION

The data shows the age category of the respondents, which **10.7%** are below 18, **75.7%** are of 18-22, **10%** are of 23-27, **3.6%** are of above 27. Thus the majority of respondents age category is **18 to**

Table no 2: Gender

Particular	no of respondents	Percentage
Male	78	55.70%
Female	49	35%
prefer not to say	13	9.30%
Total	140	100

INTERPRETATION

The data classify the genders of the respondents, which **55.7%** are of male, **35%** are of female and **9.3%** are grouped under prefer not say. Thus majority of response is collected from **Male**.

Table no 3: Level of education

Particular	No of respondent	Percentage
UG	103	73.60%
PG	24	17.10%
Phd	9	6.40%
Others	4	2.90%
Total	140	100%

INTERPRETATION

The data show the levels of education of total respondents, which **73.6%** are of UG ,**17.1%** are of PG,**6.4%** are of Phd, **2.9%** are of others. Thus the majority of respondents are **undergraduates**.

Table no 4: Area of study

Particulars	No of respondents	Percentage
Science	3	2.10%
Technology	11	7.90%
Engineering	48	34.30%
Arts	20	14.30%
Commence	56	40%
Others	2	1.40%
Total	140	100.00%

INTERPRETATION

The data shows that **40%** of the students are commerce and **34%** of the students are engineering, Thus the majority of the of the response is collected from commerce and engineering group , and with the smaller percentage group of science , technology, arts , others

Table no 5: Using AI Apps

Particulars	No of respondents	Percentage
Yes	130	93.5%
No	10	6.50%
total	140	100%

INTERPRETATION

The data shows that **93.5%** of total respondents says, Yes and **6.5%** of total respondents means No .Thus the majority of respondents use the AI applications

Table no 6: Frequently using AI apps

Particulars	No of respondents	Percentage
ChatGPT	106	75.70%
Grammarly	22	15.70%
Duolingo	26	18.60%
Khan academy	13	9.30%
Others	7	5%

INTERPRETATION

The majority of respondents are uses **ChatGPT** is about **75.7%** of total respondents and the others has the least number of users like Grammarly with 15.7%, Duolingo with 18.6%, Khan academy with 9.3% and others with 5%. Thus **ChatGPT** has most number of users.

Table no 7: Frequency of usage

Particulars	No of respondents	Percentage
Daily	33	23.60%
Weekly	57	40.70%
Occasionally	37	26.40%
Rarely	13	9.30%
Total	140	100.00%

INTERPRETATION

The data shows that often usage of AI apps, 23.6% uses daily, **40.7%** uses **weekly**, 26.4% uses occasionally, 9.3% uses rarely. Thus majority of the respondents uses AI apps for weekly basis.

Table no 8: Improvement of academic performance while using AI apps

Particulars	No of respondents	Percentage
Significantly improved	53	37.90%
Moderately improved	59	42.10%
No noticeable	18	12.90%
Negatively impacted	10	7.10%
Total	140	100.00%

INTERPRETATION

The data shows that **42.1%** has moderately improved and **37.9%** has significantly improved in the academic performance. Thus the AI apps has moderate improvement in the academic performance.

Table no 9: Clarity of using AI apps

Particulars	No of respondents	Percentage
Agree	125	89.30%
Disagree	15	10.70%
Total	140	100.00%

INTERPRETATION

The data shows that **89.3%** represents Yes, and **10.7%** says No for AI apps makes easier to understand the complex topics. The majority of the respondents says **Yes**.

Table no 10: Improvement time management

Particulars	No of respondents	Percentage
Improved	131	93.60%
Not improved	9	6.40%
Total	140	100.00%

INTERPRETATION

The data shows that **93.6%** represents Yes, and **6.4%** represents No for the increase in time management by the AI apps. Thus the majority of the respondents says **Yes**.

Table no 11: AI creates the level of confidence in academic works

Particulars	No of respondents	Percentage
Agree	113	81.90%
Disagree	27	18.10%
Total	140	100.00%

INTERPRETATION

The data shows that **81.9%** represents Yes, and **18.1%** represents No for the making more confident in the academic works. Thus the majority of the respondents says **Yes**.

Table no 12: Duration of spending in AI apps

Particulars	No of respondents	Percentage
Less than 1 hours	91	65%
1-2 hours	36	25.70%
2-4 hours	11	7.90%
More than 4 hours	2	1.40%
Total	140	100%

INTERPRETATION

The data shows that **65%** uses less than 1 hour, **25.7%** uses 1-2 hours, **7.9%** uses 2-4 hours, **1.40%** uses more than 4 hours. Thus the majority of respondents uses **less than 1 hours**.

Table no 13: Rely on AI apps for assignment

Particulars	No of respondents	Percentage
Yes ,frequently	60	43.20%
Occasionally	58	41.70%
Rarely	19	13.70%
Never	2	1.40%
Total	140	100.00%

INTERPRETATION

The above data shows the respondents on rely on AI apps for assignments. Which **43.2%** are of frequently rely, **41.7%** are of occasionally, **13.7%** are of rarely and **1.4%** are of never. Thus the maximum respondents are **frequently** and **occasionally** rely on AI apps.

Table no 14: Challenges of using AI apps

Particulars	No of respondents	Percentage
Inaccurate or unreliable information	29	20.20%
Difficulty understanding outputs	57	41%
Ethicals concerns	32	23%
Over reliance on AI tools	15	10.80%
Others	7	5%
Total	140	100.00%

INTERPRETATION

The data shows the challenges of using AI apps, which **41%** are of Difficulty understanding outputs, **20.2%** are of inaccurate or unreliable information, **23%** are of Ethicals concerns, **10.8%** are of others

reliance on AI tools and 5% are of Others. Thus the majority of respondents faces the challenge of **Difficulty understanding outputs.**

Table no 15: Concern of data privacy

Particulars	No of respondents	Percentage
Yes	121	87.10%
No	19	12.90%
Total	140	100.00%

INTERPRETATION

The data shows the concern of data privacy while using AI apps, which **87.1%** are says Yes, **12.9%** are says No. Thus the majority of respondents says **Yes** for the concern of data privacy.

CHI SQUARE:

1]

Level of education * Purpose of using AI apps Crosstabulation							
Count							
		Purpose of using AI apps					Total
		Writing and editing assignment	Learning new topics or concepts	Solving academic problems	Organizing academic tasks	Other	
Level of education	Undergraduate	27	38	23	14	1	103
	Postgraduate	3	11	6	4	0	24
	PhD	1	1	3	4	0	9
	Other	1	1	2	0	0	4
Total		32	51	34	22	1	140

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.085 ^a	12	0.439
Likelihood Ratio	12.017	12	0.444
Linear-by-Linear Association	2.891	1	0.089
N of Valid Cases	140		

a. 13 cells (65.0%) have expected count less than 5. The minimum expected count is .03.

INTERPRETATION:

The Pearson Chi-Square test yielded a value of 12.085 with 12 degrees of freedom and a p-value of 0.439. Since the p-value is greater than the conventional significance level of 0.05, there is no statistically significant relationship between the level of education and the purpose of using AI apps. This suggests that the distribution of purposes for using AI apps does not vary significantly across education levels.

2]

Age group * Challenges while using AI apps Crosstabulation							
Count							
		Challenges while using AI apps					Total
		Inaccurate or unreliable information	Difficulty understanding outputs	Ethical concerns	Over- reliance on AI tools	Other	
Age group	Below 18	4	1	4	4	2	15
	18- 22	22	46	23	10	4	105
	23- 27	1	8	4	1	1	15
	Above 27	1	3	1	0	0	5
Total		28	58	32	15	7	140

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.594 ^a	12	0.264
Likelihood Ratio	16.457	12	0.171
N of Valid Cases	140		

a. 13 cells (65.0%) have expected count less than 5. The minimum expected count is .25.

INTERPRETATION

The Pearson Chi-Square test yielded a value of 14.594 with 12 degrees of freedom and a p-value of 0.264. As the p-value exceeds the 0.05 threshold, there is no significant association between age groups and the challenges faced while using AI apps. This indicates that the reported challenges are not significantly different across the age groups analyzed.

FINDINGS:

1. AI Usage Among Students

- 93.5% of respondents use AI apps, indicating widespread adoption.
- ChatGPT is the most frequently used AI tool (75.7%), followed by Duolingo (18.6%) and Grammarly (15.7%).
- Most students use AI apps weekly (40.7%), with 23.6% using them daily.

2.Academic Performance & Learning Impact

- 42.1% of students reported moderate improvement in academic performance due to AI apps, while 37.9% saw significant improvement.
- 89.3% of respondents agreed that AI apps help in understanding complex topics.
- 81.9% believe AI apps boost their confidence in academic work.

3.Time Management & Study Habits

- 93.6% of respondents felt that AI apps improved their time management skills.
- 65% of students spend less than 1 hour per day on AI apps, while 25.7% spend 1–2 hours.

4.Reliance on AI for Assignments

- 43.2% of students frequently rely on AI for assignments, and 41.7% use it occasionally.
- This suggests a high level of dependence, which could impact independent learning and critical thinking.

5. Challenges & Ethical Concerns

- The main challenge faced by students was difficulty understanding AI-generated outputs(41%).

- Other concerns included inaccurate or unreliable information (20.2%) and ethical concerns (23%).
- 87.1% of respondents expressed concerns about data privacy.

6. Statistical Analysis (Chi-Square Tests)

- There is no significant relationship between education level and purpose of AI app usage ($p = 0.439$).
- There is no significant association between age group and challenges faced while using AI apps ($p = 0.264$).

SUGGESTION:

1. Difficulty Understanding Outputs

- Encourage developers to improve AI explanations with simplified and step-by-step responses.
- Promote AI literacy training for students to better interpret AI-generated content.

2. Inaccurate or Unreliable Information

- Teach students fact-checking techniques and critical evaluation of AI-generated content.
- Encourage the use of AI tools alongside trusted academic sources.

3. Ethical Concerns

- Develop clear guidelines for ethical AI use in education.
- Educate students on plagiarism risks and responsible AI-assisted learning.

4. Over-Reliance on AI Tools

- Encourage a balanced approach by combining AI with traditional study methods.
- Design assignments that require critical thinking beyond AI-generated answers.

5. Data Privacy Concerns

- Raise awareness about AI apps' data policies and privacy risks.
- Promote the use of AI applications with strong privacy protections.

CONCLUSION :

This study provides valuable insights into the impact of AI applications on students, highlighting both their advantages and challenges. The findings indicate that AI tools significantly contribute to improved academic performance, time management, and confidence in academic work. However, concerns such as over-reliance, difficulty in understanding outputs, and data privacy issues remain critical considerations.

The research results suggest that while AI applications are widely used and beneficial, there is a need for structured guidance in their implementation within educational environments. A balanced approach that integrates AI's strengths while maintaining traditional learning values can enhance student learning experiences without compromising cognitive development and ethical integrity.

Ultimately, AI applications serve as powerful educational aids, but their effectiveness depends on how they are utilized. Ensuring responsible usage, enhancing AI literacy, and addressing challenges will help maximize their positive impact on students' academic journeys.

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