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Students Perception and Usage of Generative AI in Education: A Study in Selected District of Western Tamil Nadu

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ABSTRACT

Artificial Intelligence (AI) is a man-made thinking power given to machines. It enables computers to think, learn, and make decisions like humans. AI helps machines perform tasks like problem-solving, understanding language, and analyzing data. In recent years, Generative Artificial Intelligence (AI) has emerged as one of the most influential technological advancements, significantly transforming various sectors such as healthcare, finance, governance, and especially education. This study aims to explore the Students' perception and usage of Generative AI in Education. The total sample size selected for the study is 200 respondents. The study is conducted among college students in selected district Western Tamilnadu – 50 students from each district of Erode, Namakkal, Salem and Tirupur. The major finding of the study where the majority of the students came to know about Generative AI through social media and they are using free mode of Generative AI through their Mobile phone. The majority of the students agrees that Easy to use and understand is the main factors for influencing the use of AI. The study suggest that since a large number of students depend on AI for learning and assignments, educational institutions should encourage guided usage of AI tools to avoid over- dependence and to promote critical thinking skills. Since peer influence (friends' usage) affects AI adoption, institutions can promote peer learning and collaborative AI usage practices for academic purposes. Since students primarily use mobile devices for accessing AI tools, developers' and educators should ensure mobile-friendly learning platforms and applications for better accessibility. This study conclude that the chi-square analysis reveals that demographic factors such as age, gender, and first graduate status significantly influence the use and perception of AI, whereas district wise differences are not significant. This suggests that AI adoption is more influenced by individual characteristics rather than geographical location.

Keywords: *Generative AI, Influencing Factors of Adoption of Generative AI, Benefits and Problems.*

Introduction

Artificial Intelligence (AI) is a man-made thinking power given to machines. It enables computers to think, learn, and make decisions like humans.AI helps machines perform tasks like problem-solving, understanding language, and analyzing data. Today, AI is widely used in education, business, banking, and many other fields. For example, tools like ChatGPT help students learn concepts and complete assignments easily. Artificial Intelligence (AI) can be classified into different types based on its capabilities and functions. Narrow AI and Traditional AI are designed for specific tasks, while Generative

and Discriminative AI focus on creating and analyzing data. General AI aims to perform human-like intelligence but is still under development, whereas Reactive Machines represent basic responsive systems. Advanced forms like Theory of Mind, Self-aware AI, and Super AI are future concepts where machines may understand emotions and surpass human intelligence.

In recent years, Generative Artificial Intelligence (AI) has emerged as one of the most influential technological advancements, significantly transforming various sectors such as healthcare, finance, governance, and especially education. Generative AI refers to the ability of computer systems to create content that typically requires human intelligence, including learning, reasoning, problem-solving and language understanding. In the educational context, generative AI enables personalized learning, instant access to information, adaptive feedback, and improved academic support. The integration of generative AI into higher education has reshaped traditional learning methods by making education more interactive, flexible, and student-centric.

Among the various AI-powered platforms used by students today, ChatGPT, Google Gemini, and Meta AI have gained widespread popularity as learning support tools. Each of these AI tools differs in terms of accuracy, speed, ease of use, and reliability. Therefore, understanding students' perception and preference towards these AI platforms is essential to evaluate their effectiveness as educational tools.

Need of the Study

The rapid growth of generative artificial intelligence (AI) tools has created a significant shift in the field of education. Students are increasingly exposed to tools like ChatGPT, Google Gemini, and Meta AI, which support learning, content creation, and academic tasks. However, the level of awareness and proper understanding of these tools among students is still unclear, especially in regional areas. In the selected districts of Western Tamil Nadu, the use of digital technologies is increasing, but there is a lack of structured studies focusing on how students adopt and utilize generative AI in their learning process. Understanding this is essential to ensure that these tools are used effectively and ethically. Hence, this study is necessary to explore the awareness and adoption of generative AI among students and to provide useful insights for improving educational practices.

Statement of the Problem

Although generative AI tools are widely accessible to students, there are growing concerns regarding their usage patterns and impact on education. Many students depend on these tools for completing academic tasks without fully understanding the content, which may affect their critical thinking and independent learning abilities. In the selected districts of Western Tamil Nadu, there is insufficient information about how students actually use generative AI tools—whether for meaningful learning or mere task completion. The absence of clear guidelines and awareness further increases the risk of misuse, such as plagiarism and over-dependence. Therefore, the problem of this study is to investigate the actual usage behavior of students and its impact on their learning outcomes.

Objectives of the Study

- To study Students' perception and usage of Generative AI in Education : A study in selected district of Western Tamilnadu
- To identify the factors influencing the adoption of Generative AI tools for educational purposes.
- To examine the students' primary purpose of using Generative AI in their Studies and their perception towards benefits and problems faced by the students while using AI
- To provide suggestions for effective and responsible use of Generative AI tools in education.

Research Methodology

- **Research Design:** This research is descriptive and analytical in nature. For collecting primary data, the Google Forms survey technique has been used. The questionnaire has been carefully framed to collect data from students regarding their perception and usage of generative AI tools in education.
- **Sample Size:** The data has been collected from selected districts of Western Tamil Nadu, namely Namakkal, Erode, Salem, and Tirupur. The total sample size selected for the study is 200 respondents. The study is conducted among college students in selected district Western Tamilnadu – 50 students from each district of Erode, Namakkal, Salem and Tirupur.

- **Area of the Study:** Selected districts of Western Tamil Nadu, namely Namakkal, Erode, Salem, and Tirupur.
- **Sampling Method:** The researcher has adopted Simple Random Sampling Method for selecting the respondents.
- **Sources of Data:** The success of any research depends on the systematic method of collecting the data and analyzing the same in an orderly manner. In the present study, an extensive uses of both primary and secondary data were made.
- **Primary Data:** To attain the objectives, this study was undertaken by using a well framed questionnaire.
- **Secondary Data:** Secondary data has been collected from various books, Journals, magazines, newspapers, reports, statistical documents and also through Internet.

Review of Literature

Dr. Sunny Kumar Gond, Dr. Atul Upadhyay, Dr. Sunil Kumar Mishra, and Ms. Saloni Bhardwaj (2024)[1], the study titled leveraging artificial intelligence in education: assessing the effectiveness of ChatGPT and Gemini AI tools among youth examined the effectiveness of AI tools in education by comparing them with traditional learning methods. The study found that students widely use AI tools for assignments, studying, and information searching due to their time-saving nature, ease of use, and improved content quality. The researchers concluded that AI tools can significantly support and transform education, although they cannot completely replace teachers, as excessive dependence on AI may reduce students' critical-thinking abilities.

Ankit Suthar and Frenisha J. Digaswala (2024)[2] examined the capabilities of Google's Gemini model, focusing on NLP, mathematical reasoning, and code generation. Their study found that both Gemini and ChatGPT produced text at a college graduate reading level, with no significant difference in readability. Gemini generated fewer sentences and shorter content but demonstrated versatility in processing text, images, audio, and video through its Mixture of Experts (MoE) architecture. The authors concluded that Gemini represents a notable advancement in AI, with potential to reshape human-technology interactions.

Hillary Chu et al. (2024)[3] investigated the ethical and professional capabilities of AI systems, comparing ChatGPT and Google Gemini in medical education contexts using Situational Judgment Tests. The study aimed to assess whether these AI models can demonstrate ethical reasoning and professionalism relevant to healthcare. Results showed that ChatGPT 4.0 consistently outperformed Google Gemini 1.5 Flash, achieving higher accuracy in both tests. The authors concluded that while both models display basic competence in medical ethics, ChatGPT aligns more closely with professional standards.

Roy RD, Gupta SD, Das D, and Chowdhury PD (2025)[4] compared ChatGPT, Gemini, and Meta AI in answering higher-order microbiology questions for MBBS students. The study found that ChatGPT performed best in most competencies, while Gemini showed good performance in selected areas. Meta AI received the lowest scores among the three platforms. The study concluded that ChatGPT and Gemini are more effective AI tools for academic learning, but students should not depend entirely on AI for conceptual understanding.

Research Gap

Review of previous literature source that many studies have been conducted about Generative AI in all over world and India till date there are only few studies to highlight the modern technology using

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[1] Dr. Sunny Kumar Gond, Dr. Atul Upadhyay, Dr. Sunil Kumar Mishra, & Ms. Saloni Bhardwaj. (2024), "Leveraging Artificial Intelligence In Education: Assessing The Effectiveness Of ChatGPT And Gemini AI Tools Among Youth", ***Educational Administration: Theory and Practice***, Vol. *30*, Issue. 1, pp. 3086–3096.

[2] Ankit Suthar, A., & Digaswala, F. J. (2024), " A New Chapter in AI: Unveiling the Potential of Google's Gemini," **International Journal of Research Publication and Reviews,** Vol. No. 5, Issue No.3, pp. 6717–6720.

[3]Hillary Chu, Emily Noelle Pasion, Stephanie Yeh, and Gary Chu (2024)," *Assessing the ethical and professional capabilities of AI: A study of ChatGPT and Google Gemini versus PREview (Situational Judgement Test) for medical student applicant*" **Journal of Clinical Question,** Volume No.1, Issue No.3. pp. 82–88.

[4]Roy RD, Gupta SD, Das D, and Chowdhury PD (2025), "Chat GPT, Gemini or Meta AI: A comparison of AI platforms as a tool for answering higher-order questions in microbiology," **Journal of Post graduate Medicine Volume,** Vol. 71, Issue No.1, pp.28-35.

Generative AI in Western Tamilnadu hence this research attempts to identify the technology using Generative AI in selected district in Western Tamilnadu.

Data Analysis and Interpretation:

Percentage Analysis

Table 1

Variables	Classification	Number	Percentage
Age	Below 19 years	38	19
	19-21 years	77	38.5
	21-23 years	51	25.5
	Above 23 years	34	17
Gender	Male	86	43
	Female	114	57
College	Arts & Science College	43	21.5
	Engineering College	34	17.0
	Polytechnic / ITI College	36	18.0
	Dental / Medical College	43	21.5
	B.Ed., College	44	22.0
District	Namakkal	50	25.0
	Erode	50	25.0
	Salem	50	25.0
	Tirupur	50	25.0
Area	Urban	75	37.5
	Semi urban	59	29.5
	Rural	66	33.0
First Graduate	Yes	137	68.5
	No	63	31.5
Came to know about Generative AI	From College	72	36.0
	Friends & Family	39	19.5
	Social media	84	42.0
	Seminar & Conference	5	2.5

The above table shows that the majority of the students are in the age group 19-21 years (38.5%) and they are female students (57%). Majority of the students are from B.Ed., Colleges (22) and they are come from urban area (37.5%). The Students are equally distributed (25% each) across selected districts (Namakkal, Erode, Salem, Tirupur) of western Tamilnadu and they are the First graduate of their family (68.5%). Majority of the students are come to know about Generative AI through (42%) Social Media.

Table 2

Variables	Classification	Number	Percentage
Device	Mobile	111	55.5
	Desktop	14	7.0
	Both	75	37.5
Mode of using Generative AI	Free mode	182	91.0
	Premium mode	18	9.0
Use AI tools for	To get most complex concept explanation	51	25.5
	Basic concept	64	32.0
	Both	85	42.5
Set Personal Assistant	Yes	103	51.5
	No	97	48.5
Academic performance improvement through Generative AI	Significantly	73	36.5
	Slightly	100	50.0
	No change	18	9.0
	Declined	9	4.5

AI can replace human experts	Yes	84	42.0
	No	50	25.0
	Partially	66	33.0
Suitable for professional use	ChatGPT	117	58.5
	Google Gemini	42	21.0
	Meta AI	27	13.5
	None	14	7.0

The above table shows that among the total students, the majority of the students are use Mobile Phone (55.5%) for Generative AI use purpose when compare to Desktop and they are using free mode of Generative AI (91%). Majority of the students are using AI tools for to get most complex concept explanation as well as basic concept (42.5%) and they set Generative AI Personal Assistant facilities for their work. Majority of the students are think that AI can replace human exports (42%) and Chat GPT (58.5%) is the most suitable Generative AI tool for professional use.

Table 3: Verify Information provided by the Generative AI

Verify information provided by the Generative AI	No. of Respondents	Percentage
Cross-check with textbooks	67	33.5
Google search	96	48.0
Ask teachers	21	10.5
I trust it blindly	16	8.0
Total	**200**	**100.0**

The above table shows that, among the total respondents, 33.5% of the students verify the information provided by Generative AI by cross-checking it with textbooks, 48.0% verify it through Google searches, 10.5% verify it by consulting teachers, and 8.0% trust the information without verification. Hence, the majority of the students (48.0%) verify the information using Google search.

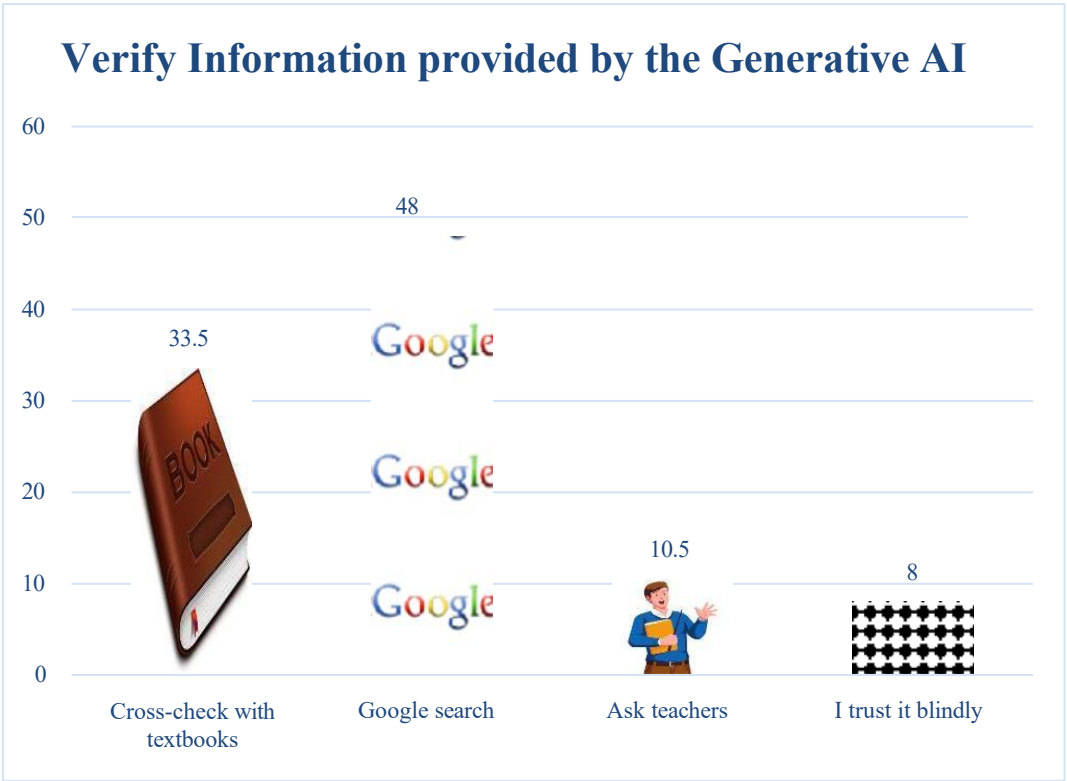

Chart 1

Weighted Average Rank

Table 4: Factors Influencing to use Generative AI

Factors	Mean	Rank
Easy to use and understand	4.39	1
Knowledge about AI tools influences usage	4.04	3
Easy to access to internet and digital devices influences to use AI tools	4.13	2
Interest in Technology motivates to use AI tools	4.04	3
Friends' usage influences to use AI tools	4.01	6
Faculty encouragement motivates me to use AI in studies	3.89	10
AI helps me complete academic work more efficiently	4.01	6
Believe Generative AI enhances learning experience	3.97	8
Institutional support encourage the use of AI in education	3.93	9
Believe Generative AI Will play an important role in future career	4.04	3

The above table shows that among the factors influencing the use of AI, Easy to use and understand secures the first rank (4.39). Easy access to internet and digital devices influencing the use of AI tools holds the second rank (4.13). Knowledge about AI tools influencing usage, Interest in technology motivating the use of AI tools and Belief that generative AI will play an important role in future career hold the third rank (4.04). Friends' usage influencing the use of AI tools and AI helping to complete academic work more efficiently hold the sixth rank (4.01). Belief that generative AI enhances learning experience holds the eighth rank (3.97). Institutional support encouraging the use of AI in education holds the ninth rank (3.93), and Faculty encouragement motivating the use of AI in studies holds the tenth rank (3.89). Hence, the majority of the respondents consider Easy to use and understand (4.39) as the most important factor influencing the use of AI.

Table 5: Primary Purpose for using Generative AI in Studies

Purpose	Mean	Rank
Assignments	4.31	1
Explaining concepts	4.16	2
Projects	4.10	6
Exam revision	3.99	13
Clarifying doubts instantly	4.15	3
Generating study notes	4.07	9
Summarizing long chapters	4.04	12
Grammar &spellchecking	4.10	6
Solving numerical problem	4.14	4
Preparing for competitive exams	4.09	8
Language translate	4.06	11
Understanding difficult topics	4.14	4
Preparing seminar & conference	4.14	4
Photo editing	4.07	9
Video editing	3.91	14

The above table shows that among the purposes of using Generative AI tools in studies, Assignments secures the first rank (4.31). Explaining concepts holds the second rank (4.16), while Clarifying doubts instantly holds the third rank (4.15). Solving numerical problem, Understanding difficult topics, and Preparing seminar & conference share the fourth rank (4.14). Projects and Grammar & spell checking share the sixth rank (4.10). Preparing for competitive exams holds the eighth rank (4.09). Generating study notes and Photo editing share the ninth rank (4.07). Language translate holds the eleventh rank (4.06). Summarizing long chapters holds the twelfth rank (4.04). Exam revision holds the thirteenth rank (3.99), and video editing holds the fourteenth rank (3.91). Hence, the majority of the students consider Assignments (4.31) as the primary purpose of using Generative AI tools in their studies.

Table 6: Benefits of Generative AI

Benefits of Generative AI	Mean	Rank
Simplicity	4.36	1
Accuracy	3.98	12
Comfortability	4.05	8
Timesaving	4.12	4
Speed	4.10	6
24/7availability	4.16	2
Easy access to information	4.16	2
Learning assistance	4.03	9
User friendly	4.10	6
Better decision making	4.00	11
AI tools clarify doubts when you ask follow-up questions	4.12	4
AI tools adjust explanations based on your level of Understanding	4.03	9

The above table shows that among the benefits of generative AI, Simplicity secures the first rank (4.36). 24/7 availability and easy access to information hold the second rank (4.16).Time saving and AI tools clarify doubts when you ask follow-up questions hold the fourth rank (4.12). Speed and user friendly hold the sixth rank (4.10). Comfortability holds the eighth rank (4.05). Learning assistance and AI tools adjust explanations based on your level of understanding hold the ninth rank (4.03). Better decision making holds the eleventh rank (4.00), and accuracy holds the twelfth rank (3.98). Hence, the majority of the respondents consider simplicity (4.36) as the most important benefit of AI.

Table 7: Problems faced by Students while using AI

Problems	Mean	Rank
Difficult to understand how to use AI platforms effectively.	1.98	7
AI responses sometimes lack depth or clarity.	2.09	4
I feel confused when different AI tools give different answers.	1.96	8
Some AI platforms require paid subscriptions, which is costly.	1.94	10
Using AI reduces my independent thinking ability	1.96	8
Over use of AI affects my learning process negatively.	2.19	2
I depend too much on AI for completing assignments.	2.21	1
AI sometimes provides inaccurate or misleading information.	2.13	3
I am concerned about data privacy while using AI platforms.	1.99	6
AI tools sometimes provide biased responses.	2.04	5

The above table shows that among the problems of using AI, I depend too much on AI for completing assignments secures the first rank (2.21). Overuse of AI affects my learning process negatively holds the second rank (2.19). AI sometimes provides inaccurate or misleading information holds the third rank (2.13). AI responses sometimes lack depth or clarity holds the fourth rank (2.09). AI tools sometimes provide biased responses hold the fifth rank (2.04). I am concerned about data privacy while using AI platforms holds the sixth rank (1.99).I find it difficult to understand how to use AI platforms effectively holds the seventh rank (1.98). I feel confused when different AI tools give different answers and Using AI reduces my independent thinking ability both hold the eighth rank (1.96). Some AI platforms require paid subscriptions, which is costly holds the tenth rank (1.94).Hence, the majority of the respondents consider dependence on AI for completing assignments (2.21) as the major problem of using AI tools.

Table 8: Cross Tabulation Age and Factors influencing Use AI

Age	Factors influencing to use AI			Total
	Low	Medium	High	
Below 19 Years	9 (23.7%)	21 (55.3%)	8 (21.1%)	38 100.0%
19-21 years	23 (29.9%)	23 (29.9%)	31 (40.3)	77 100.0%

21-23 years	16 (31.4%)	23 (45.1%)	12 (23.5%)	51 100.0%
Above 23 years	7 (20.6%)	22 (64.7%)	5 (14.7%)	34 100.0%
Total	**55 (27.5%)**	**89 (44.5%)**	**56 (28.0%)**	**200 100.0%**

The table shows the relationship between age and factors influencing the use of AI. It is observed that the majority of respondents (44.5%) fall under the medium level of influence, followed by high (28.0%) and low (27.5%). Among respondents below 19 years, most (55.3%) are moderately influenced, while smaller proportions fall under low (23.7%) and high (21.1%) influence. In the 19–21 years category, a higher proportion (40.3%) shows a high level of influence, indicating strong interest in AI usage, whereas equal percentages (29.9%) fall under low and medium levels. For respondents aged 21–23 years, the majority (45.1%) are moderately influenced, followed by low (31.4%) and high (23.5%) influence. Among those above 23 years, a significant majority (64.7%) fall under medium influence, with fewer respondents in low (20.6%) and high (14.7%) categories. Overall, the findings indicate that respondents across all age groups are predominantly moderately influenced to use AI, while the 19–21 years group shows comparatively higher inclination toward strong influence.

Hypothesis

H_0 : There is no significant association between Age and Factors influencing to use AI.

H_1: There is a significant association between Age and Factors influencing to use AI.

Table 9: Chi Square Test Age and Factors influencing to use Generative AI

Test	Chi-square	Degree of freedom	P value	Remark
Pearson Chi-Square	16.342[a]	6	0.012	Significant

The above table reveals that the p-value (0.012) is less than the level of significance (0.05). Hence, the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, there is a significant relationship between age and the factors influencing the use of Generative AI.

Hypothesis

H_0 : There is no significant association between the demographic variables and Students' Perception and usage of Generative AI in Education.

H_1: There is a significant association between the demographic variables and students' perception and usage of Generative AI in education.

Table 10: Chi Square Test Demographic Variables and Students' Perception and Usage of Generative AI in Education

Factor	Chi-square	Degree of Freedom	P value	Remark
Gender and Factors Influencing to using Generative AI	13.554[a]	2	.001	Significant
Gender and Problems Faced by Students while using Generative AI	11.157[a]	2	.004	Significant
First Graduate and Problems Faced by Students while using Generative AI	7.697[a]	2	.021	Significant
Age and Opinion about the Benefits of Generative AI Platforms	9.115[a]	6	.167	Not Significant
College and Primary Purpose for Using Generative AI in Studies	4.767[a]	8	.782	Not Significant
District and Factors Influencing to using Generative AI	3.764[a]	6	.709	Not Significant
District and Primary Purpose for using Generative AI in studies	3.120[a]	6	.794	Not Significant
District and Opinion about the Benefits of Generative AI Platforms	5.984[a]	6	.425	Not Significant
District and Problems Faced by Students while using Generative AI	10.853[a]	6	.093	Not Significant

The chi-square analysis was conducted to identify the association between demographic variables and students' perception and usage of Generative AI platforms in education. The results indicate that there is a significant association between gender and factors influencing the use of Generative AI ($\chi^2 = 13.554$, $p = 0.001$), since the p-value is less than 0.05. Similarly, gender and problems faced by students while using Generative AI also show a significant association ($\chi^2 = 11.157$, $p = 0.004$). Further, the relationship between first graduate status and problems faced while using Generative AI is also found to be significant ($\chi^2 = 7.697$, $p = 0.021$). Hence, the null hypothesis is rejected for these variables.

On the other hand, age and opinion about the benefits of Generative AI platforms do not show a significant association ($\chi^2 = 9.115$, $p = 0.167$). Likewise, college and primary purpose for using Generative AI in studies are not significantly associated ($\chi^2 = 4.767$, $p = 0.782$). The study also reveals that district does not have a significant association with factors influencing the use of Generative AI, primary purpose for using Generative AI in studies, opinion about the benefits of Generative AI platforms, and problems faced while using Generative AI, as all p-values are greater than 0.05. Therefore, the null hypothesis is accepted for these variables.

Overall, the findings conclude that gender and first graduate status have a significant influence on students' perception and usage of Generative AI, whereas age, college, and district do not significantly influence the selected study variables.

Findings

Percentage Analysis

- The majority of the students (38.5%) are aged between19–21years.
- The majority of the students (57%) are female.
- The majority of the students (22.0%) are from B.Ed. Colleges.
- The respondents are equally distributed across selected districts. (Namakkal, Erode, Salem, Tirupur) of Western Tamilnadu.
- The majority of the students (37.5%) are from urban areas.
- The majority of the respondents (68.5%) are first graduates.
- The majority of the students (42.0%) came to know through social media.
- The majority of the students (55.5%) using mobile.
- The majority of the students (91.0%) use free mode.
- The majority of the students (42.5%) use Generative AI tools for both basic and complex concept explanations.
- The majority of the students (51.5%) have set a personal assistant.
- The majority of the students (50.0%) reports light improvement in academic performance.
- The majority of the students (48.0%) verify information using Google search.
- The majority of the students (42.0%) believe Generative AI can replace human experts.
- The majority of the students (58.5%) consider ChatGPT suitable for professional use.

Weighted Average Rank

- The factors influencing the use of AI show that "Easy to use and understand" secures the first rank (4.39), followed by "Easy access to internet and digital devices" in second place (4.13). "Knowledge about AI tools," "Interest in technology," and "Belief that generative AI will play an important role in future career" share the third rank (4.04). Among the 10 factors influencing the use of AI, "Faculty encouragement motivating the use of AI in studies" holds the least rank (3.89).
- The purposes of using AI tools show that "Assignments" secures the first rank (4.31), followed by "Explaining concepts" in second place (4.16) and "Clarifying doubts instantly" in third place (4.15). "Solving numerical problems," "Understanding difficult topics," and "Preparing seminars & conferences" share the fourth rank (4.14). Among the 15 purposes of using AI tools, "Video editing" holds the least rank (3.91).

- The benefits of generative AI show that “Simplicity” secures the first rank (4.36), followedby“24/7availability”and“Easyaccesstoinformation”in second place (4.16). “Time saving” and “AI tools clarify doubts when you ask follow-up questions” share the fourth rank (4.12). Among the 12 benefits of generative AI, “Accuracy” holds the least rank (3.98).
- The problems of using AI show that “I depend too much on AI for completing assignments” secure the first rank (2.21). “Overuse of AI affects my learning process negatively” holds the second rank (2.19). “AI sometimes provides inaccurate or misleading information” holds the third rank (2.13). “AI responses sometimes lack depth or clarity” holds the fourth rank (2.09). Among the 10 problems of using AI, “Some AI platforms require paid subscriptions, making them costly” holds the least rank (1.94).

Chi Square Test

- There is a significant relationship between age and the factors influencing the use of Generative AI.
- There is a significant relationship between gender and the factors influencing the use of Generative AI
- There is a significant relationship between gender and the problems faced by students while using Generative AI
- There is a significant relationship between first graduate status and the problems faced by students while using Generative AI
- There is no significant relationship between age and opinion about the benefits of Generative AI platforms.
- There is no significant relationship between the type of college and the primary purpose for using Generative AI in studies.
- There is no significant relationship between district and the factors influencing the use of Generative AI
- There is no significant relationship between district and the primary purpose for using Generative AI in studies.
- There is no significant relationship between district and opinion about the benefits of Generative AI platforms.
- There is no significant relationship between district and the problems faced by students while using Generative AI.

Suggestions

- Since a large number of students depend on AI for learning (46.0%) and assignments (52.0%), educational institutions should encourage guided usage of AI tools to avoid over- dependence and to promote critical thinking skills. Since peer influence (friends’ usage) affects AI adoption, institutions can promote peer learning and collaborative AI usage practices for academic purposes. As students use AI for multiple academic activities like projects, seminars, and content creation, institutions should encourage creative and innovative applications of AI in education. As most students (91.0%) use the free mode of AI tools, institutions can consider providing access to premium educational AI platforms to enhance learning quality and advanced features. As some students rely on AI for exam preparation and concept understanding, educators should encourage a blended learning approach combining AI tools with traditional teaching methods.
- Since students primarily use mobile devices (55.5%) for accessing AI tools, developers’ and educators should ensure mobile-friendly learning platforms and applications for better accessibility. As students’ show neutral responses towards some benefits like accuracy and adaptability, AI developers should focus on improving the quality, depth, and contextual understanding of AI responses.
- Since many students (42.0%) believe AI can replace human experts, awareness programs should be conducted to clarify that AI is a supportive tool rather than a replacement for human intelligence and expertise. Based on chi-square results showing significant relationships (age,

gender, and first graduate status), targeted training programs should be designed for different student groups to improve AI adoption and effectiveness.

Conclusion

The study on students' perception and usage of generative AI in education in selected districts of Western Tamilnadu shows that AI tools have become an important part of students' learning. Most students are aware of and regularly use these tools for assignments, understanding concepts, and exam preparation, which improve their learning efficiency. Students generally have a positive opinion about AI, as they find it simple, timesaving, fast, and easy to access. Many prefer free versions and mostly use AI through mobile devices, highlighting the need for affordable access. However, some concerns still exist, such as over-dependence on AI, possible in accuracies and reduced independent thinking. Overall, AI tools are widely accepted and beneficial, but they should be used carefully.

The weighted average analysis further confirms that ease of use and accessibility are the most influential factors driving AI adoption, while assignments are the primary purpose for using AI tools. The chi-square analysis reveals that demographic factors such as age, gender, and first graduate status significantly influence the use and perception of AI, whereas district-wise differences are not significant. This suggests that AI adoption is more influenced by individual characteristics rather than geographical location.

Overall, the study concludes that generative AI tools play a significant and positive role in modern education. However, their effective utilization requires proper guidance, awareness, and institutional support. A balanced approach combining AI tools with traditional learning methods will help students maximize benefits while minimizing potential drawbacks.

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