



Education in the Era of Artificial Intelligence (AI): Students' Attitude towards Using ChatGPT as a Learning Tool

G. Veena

Guest Faculty, Mangalore University

Mangalore. India

veenanaik50@gmail.com

G.C. Varadaiah

Sri Sarvajna College of Education

Vijayanagar, Bangalore – 560 040. India

ABSTRACT

The primary aim of this research study is to examine university students' opinions on using ChatGPT in learning. This study used a survey method for which a well-structured online questionnaire was designed to gather data from postgraduate students at Mangalore University. The findings showed that the primary purpose of 336 (87.5%) students using ChatGPT was to prepare for examinations, and 318 (82.8%) of them used ChatGPT to organise notes. About 322(83.9%) users 'Strongly agree' and 33(8.6%) 'Agree' with the statement 'I believe that using ChatGPT has increased the convenience of completing my academic tasks', followed by 302 (78.7%) of the students 'Agree' and 67(17.4%) 'Strongly agree' with the statement 'I believe that answers/responses from ChatGPT are reliable and accurate'. Data analysis discovered that students usually had positive feelings about using ChatGPT for learning.

Keywords: ChatGPT, Artificial Intelligence (AI), Education, PG Students, Mangalore University

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1. Introduction

The ultimate goal of education is to build up the students' critical and creative thinking, enabling them to solve their real-life problems individually and in a team. Education is a process of learning that extends beyond the

simple acquisition of knowledge rather than being a product (Holmes and Tuomi, 2022). Since AI-based systems can enable personalised learning by adjusting to the needs and interests of each student, artificial intelligence (AI) appears to be an emerging technology with enormous potential in the field of education (Nouraldeem, 2022). Artificial intelligence is having a significant impact on education, as demonstrated by the fact that learning is becoming more efficient, that learning can be personalized, that learning can be done globally, that smarter content is being created, and that educational management is being optimized in terms of effectiveness and efficiency.

Modern technologies are essential for streamlining the teaching-learning process. Because ChatGPT can potentially enhance students' learning experiences, its usage in education has garnered a lot of interest (Kamoun et al., 2024). The system can tailor its responses to each student's unique needs, provide them feedback right away, and make complex topics easier for them to understand. As a result, it becomes a potentially useful tool that encourages students' active engagement and cognitive growth by accommodating their varying learning styles and providing ongoing assistance with gaining knowledge.

1.1. About ChatGPT

The Quick advancements in natural language processing (NLP) and artificial intelligence (AI) technologies have led to the expansion of refined tools that can considerably enrich user knowledge in different spheres. One such revolutionary origination is ChatGPT, designed by OpenAI, a company specializing in AI and research (Pavlik, 2023). On November 30, 2022, the company launched ChatGPT. OpenAI also generated a predominant AI art generator called DALL-E-2 and a speech recognition system called Whisper, Headquartered in San Francisco. OpenAI released ChatGPT; it is a language model (GPT language model technology) developed by OpenAI, a research organization co-founded by Elon Musk and other entrepreneurs (Ajlouni et al., 2023). ChatGPT is an artificial intelligence system that can comprehend and produce text in natural language. It employs an algorithm known as a transformer and is trained on a lot of text data to understand how to create text that sounds like human speech. The conversational AI model ChatGPT, or Chatbot Generalized Pre-trained Transformer, has proven to be highly proficient at comprehending and producing human-like text. It has been trained on various internet texts, permitting it to create contextually pertinent and lucid replies to user inquiries (Romero, 2023).

2. Review of Literature

Das and Madhusudan (2024) conducted a study to discover students' use of ChatGPT in academics, investigative issues influencing its acceptance, advantages, drawbacks, and ethical concerns. The study used a questionnaire-based survey method to collect data. 162 questionnaires were distributed among undergraduate, postgraduate, and doctoral students. The results point out a positive awareness among students about the use of Chat GPTs for academic purposes, its advantages, drawbacks, reasons for acceptance, and ethical concerns. The result of the study also reveals that the higher education students' awareness towards the use of ChatGPT is not considerably influenced by sex and streams. The study recommended meaningful inferences for the responsible and successful assimilation of ChatGPT in university education, considering its apparent advantages and ethical concerns.

Pavlenko and Syzenko (2024), in their study, discover students' familiarity with ChatGPT for academic reasons and examine their levels of satisfaction with the support existing by this tool. The findings showed that

the majority, 74.3%, indicated the use of CHATGPT as a valuable tool for acquiring information. In contrast, a large number 60.7% of them used ChatGPT for writing assignments, 55.6% of them Used ChatGPT to generate ideas., and 34.6% of them opined that they used ChatGPT to improve the content of their presentations. The results confirm that scholars typically use ChatGPT while searching for information as well as working on language-related tasks. The results showed that students from all three disciplines were delighted with ChatGPT's use for academic purposes, including how well it worked on tasks and assignments and how positively they felt about the tool's ability to improve learning.

Crcek and Patekar (2023) conducted a study to explore the frequency of ChatGPT for assignments among PG students, check into how they use the program, and see what they think about its ethical issues. An online survey was created for this study to gather information from 201 postgraduate students from Croatian public and private universities. The study shows that more than 50 respondents indicated that they use ChatGPT for written assignments, and most respondents use it to generate ideas, summarize, paraphrase, and proofread. It was also found that most of the participants stated that the mainly ethically acceptable use of ChatGPT is for generating ideas. In contrast, many professed that other uses are unethical. The study concluded that the institution of higher education and lecturers must take a crucial stand on artificial intelligence in learning and give understandable guidelines to scholars concerning the ethical use of ChatGPT.

3. Objectives of the Study

The objective of the present study is to

- Know the mode of learning about ChatGPT by the PG students,
- Discover the purpose and frequency of use of ChatGPT by the PG students
- Find out the student's attitudes towards the use of ChatGPT in learning,
- Identify the difficulties encountered by the users while using ChatGPT

4. Methodology

To accomplish the goals mentioned above, this research study employed a questionnaire-based survey method. A well-structured online questionnaire was created to gather data from Mangalore University's postgraduate

Data Analysis and Interpretation

Gender	Responses	(%)
Male	192	50.0%
Female	192	50.0%
Total	384	100.0%

Table 1. Gender -Wise Distribution

students. A total of 400 online surveys were mailed, and 384 properly completed were returned. Statistical techniques were used to categorize, examine, and tabulate the gathered data.

The table 1 shows gender-wise distribution of respondents of Mangalore University. Out of 384 respondents, 192 (50.0%) are female and 192 (50.0%) are male respondents.

Class	Gender						χ^2 Value
	Male		Female		Total		
	Responses	(%)	Responses	(%)	Responses	(%)	
1st year	84	21.9%	88	22.9%	172	44.8%	
2nd year	108	28.1%	104	27.1%	212	55.2%	
Total	192	50.0%	192	50.0%	384	100.0%	4.17

Table 2. Studying class-Wise Distribution

Table 2 presents the classes in which the students are studying. It shows that the majority of the students, 212(55.2%), are second-year postgraduate students, and the remaining 172(44.8%) are first-year postgraduate students.

When chi-square (χ^2) was applied to these groups, the chi-square (χ^2)test value calculated to test the significance of the association between students and Studying class were not statistically significant.

Computer devices	Gender			χ^2 Value
	Male	Female	Total	
Desktop	34(8.9%)	36(9.3%)	70(18.2%)	
Laptop	91(23.7%)	104(27.1%)	195(50.8%)	
Smart Phone	57(14.8%)	39(10.2%)	96(25.0%)	
Others	10(2.6%)	13(3.4%)	23(6.0%)	
Total	192(50.0%)	192(50.0%)	384(100.0%)	164.65*

*@3 degree of freedom significant at 1% level

Table 3. Computer devices for the use of ChatGPT

Data in Table3 shows that 195(50.8%) of the students use the Smart Phone while 195(50.8%) of them use Laptops, 96(25.0%) of them employ Desktops, and the remaining 23(6.0%) of the respondents use other computers devices. The fact that smartphones are so popular because of their extreme portability and ease is noteworthy. When the chi-square was applied to these groups, the frequency chi-square test disclosed that the Chi-square test (χ^2) value calculated to test the significance of association between respondents and the use of different computer devices was highly statistically significant.

Community	Gender		
	Male	Female	Total
Through Internet	76(19.8%)	68(17.7%)	144(37.5%)
Through News media	37(9.6%)	45(11.7%)	82(21.4%)
Through Friends/Family	53(13.8%)	39(10.2%)	92(24.0%)
Through Tutorials/Videos	26(6.8%)	40(10.4%)	66(17.1%)
Total	192(50.0%)	192(50.0%)	384(100.0%)

Table 4. Mode of learning about ChatGPT among the participants

Table 4 reveals the methods used to acquire ChatGPT skills, which are one of the significant characteristics of academic learning. The study has identified four methods as the means by which they have learned ChatGPT literacy skills. A large number of 144(37.5%) of the respondents indicated that they acquired ChatGPT skills through the Internet, followed by Friends/Family 92(24.0%), Through News media 82(21.4%) and Tutorials/Videos 66(17.1%).

Frequency	Gender						χ^2 Value
	Male		Female		Total		
Daily	112	29.1%	95	24.7%	207	53.9%	453.84*
Twice in a Week	71	18.5%	84	21.9%	155	40.4%	
Weekly	6	1.6%	6	1.6%	12	3.1%	
Fortnightly	3	.8%	7	1.8%	10	2.6%	

*significant @ 1% level with 1 degree of freedom

Table 5. Frequency of ChatGPT use

Table 5 reveals that the highest frequency is daily, with 207(53.9%), and Twice a Week is the next most frequent, with 155(40.4%). The lowest frequency is observed in Fortnightly 10(2.6%).

When chi-square (χ^2) was applied to these groups, the chi-square (χ^2) test value calculated to test the significance of the association between respondents and the frequency of using ChatGPT for learning purposes was highly significant at the 1% level.

Time Spent	Gender					
	Male		Female		Total	
Less than 1 hour	79	20.6%	74	19.3%	153	39.8%
1-2 hours	73	19.0%	77	20.1%	150	39.1%
2-3 hours	31	8.1%	32	8.3%	63	16.4%
More than 5 hours	9	2.3%	9	2.3%	18	4.7%
Total	192	50.0%	192	50.0%	384	100.0%

Table 6. Time spent on using ChatGPT

The data shown in Table 6 reveal the time the students spent using Chat GPT. The table indicates that 153(39.8%) of

Purpose	Opinion	Gender						χ^2 Value
		Male		Female		Total		
I use ChatGPT to prepare notes	Yes	157	40.9%	161	41.9%	318	82.8%	165.38*
	No	35	9.1%	31	8.1%	66	17.2%	
I use ChatGPT for my course assignments	Yes	163	42.4%	163	42.4%	326	84.9%	187.04*
	No	29	7.6%	29	7.6%	58	15.1%	
I use ChatGPT for translating texts	Yes	135	35.2%	151	39.3%	286	74.5%	92.04*
	No	57	14.8%	41	10.7%	98	25.5%	
I use ChatGPT to prepare the examination	Yes	163	42.4%	173	45.1%	336	87.5%	216.00*
	No	29	7.6%	19	4.9%	48	12.5%	
I use ChatGPT to learn course-related concepts	Yes	155	40.4%	166	43.2%	321	83.6%	173.34*
	No	37	9.6%	26	6.8%	63	16.4%	

*significant @1% level with 1 degree of freedom

Table 7. Purposes of using Chat GPT in learning

students spent less than 1-hour using Chat GPT, followed by 150 (39.1%) of the students who spent 1-2 hours, and only 18(4.7%) of the students spent More than 3 hours using Chat GPT.

Table 7 exposes the purpose of using ChatGPT among the respondents. The majority, 336 (87.5%) of students, use ChatGPT to prepare for examinations, whereas 326 (84.9%) of them stated that they use ChatGPT for course assignments, 318 (82.8%) of them use it to prepare notes, 321(83.6%) use it to learn course-related concepts, 307(79.9%) read newspapers/magazines, and 286(74.5%) translate texts.

When chi-square (χ^2) was applied to these groups, the chi-square (χ^2) test calculated for using ChatGPT among the respondents showed that the association was statistically significant at the 1% level.

Table 8. Students' attitudes toward using ChatGPT for academic purposes

Statements	Scale	Gender					
		Male		Female		Total	
I believe that answers/responses from ChatGPT are reliable and accurate.	Strongly Agree	32	8.3%	35	9.1%	67	17.4%
	Agree	152	39.6%	150	39.1%	302	78.7%
	Neutral	2	.5%	5	1.3%	7	1.8%
	Disagree	6	1.6%	2	.5%	8	2.1%
	Strongly Disagree	0	.0%	0	.0%	0	.0%
I feel the use of ChatGPT for academic purposes defeats the purpose of education.	Strongly Agree	67	17.4%	29	7.6%	96	25.0%
	Agree	108	28.1%	162	42.2%	270	70.3%
	Neutral	11	2.9%	1	.3%	12	3.1%
	Disagree	0	.0%	0	.0%	0	.0%
	Strongly Disagree	6	1.6%	0	.0%	6	1.6%

I believe AI tools like ChatGPT will become the neAw normal in future.	Strongly Agree	120	31.3%	146	38.0%	266	69.3%
	Agree	42	10.9%	20	5.2%	62	16.1%
	Neutral	17	4.4%	7	1.8%	24	6.3%
	Disagree	13	3.4%	15	3.9%	28	7.3%
	Strongly Disagree	0	.0%	4	1.0%	4	1.0%
ChatGPT helps students with gaining answers to their questions.	Strongly Agree	47	12.2%	42	10.9%	89	23.2%
	Agree	145	37.8%	150	39.1%	295	76.8%
	Neutral.	0	.0%	0	.0%	0	.0%
	Disagree.	0	.0%	0	.0%	0	.0%
	Strongly Disagree.	0	.0%	0	.0%	0	.0%
I believe that ChatGPT retrieves the most recent data to generate responses.	Strongly Agree	14	3.6%	13	3.4%	27	7.0%
	Agree	10	2.6%	8	2.1%	18	4.7%
	Neutral	16	4.2%	17	4.4%	33	8.6%
	Disagree	125	32.6%	127	33.1%	252	65.6%
	Strongly Disagree	27	7.0%	27	7.0%	54	14.1%
ChatGPT is an effective problem-solving pathway.	Strongly Agree	6	1.6%	5	1.3%	11	2.9%
	Agree	138	35.9%	142	37.0%	280	72.9%
	Neutral	6	1.6%	5	1.3%	11	2.9%
	Disagree	30	7.8%	30	7.8%	60	15.6%
	Strongly Disagree	12	3.1%	10	2.6%	22	5.7%
Using ChatGPT has increased the convenience of completing my academic tasks.	Strongly Agree	163	42.4%	159	41.4%	322	83.9%
	Agree	18	4.7%	15	3.9%	33	8.6%
	Neutral	9	2.3%	12	3.1%	21	5.5%
	Disagree	1	.3%	1	.3%	2	.5%
	Strongly Disagree	1	.3%	5	1.3%	6	1.6%

Table 8 exposes that the use of ChatGPT for academic purposes has positively impacted the learners. Majority 322(83.9%) users 'Strongly agree' and 33(8.6%) 'Agree' with the statement 'I believe that using ChatGPT has increased the convenience of completing my academic tasks', followed by 302 (78.7%) of the students 'Agree' and 67(17.4%) 'Strongly agree' with the statement 'I believe that answers/responses from ChatGPT are reliable and accurate', 295(76.8%) of the students 'Agree' and 89(23.2%) 'Strongly agree' with the statement 'ChatGPT is important in the education sector as it helps students with gaining answers to their questions'.

Statements	Gender			
	Male	Female	Total	χ^2 Value
The latest technologies, like ChatGPT, allow me to work more in less time.	37(9.6%)	45(11.7%)	82(21.4%)	
ChatGPT can give information in different fields	76(19.8%)	68(17.7%)	144(37.5%)	
ChatGPT can illuminate thoughts in writing, thus improving competence and efficiency	53(13.8%)	39(10.2%)	92(24.0%)	
ChatGPT can help scholars better comprehend theories and concepts	26(6.8%)	40(10.4%)	66(17.1%)	
Total	192(50.0%)	192(50.0%)	384(100.0%)	35.38*

**@ 3 degrees of freedom significant at a 5% level

Table 9. Students' opinion on the advantages of using Chat GPT

Table 9 illustrates learner opinions about ChatGPT's educational advantages. Most 144(37.5%) of the respondents opined that ChatGPT can provide information in various fields, followed by 92(24.0%) who stated that ChatGPT can illuminate thoughts in writing, thus improving competence and efficiency. 82(21.4%) indicated that the latest technologies, like ChatGPT, allow them to work more in less time.

The chi-square test was applied to these groups. The frequency chi-square test exposed that the Chi-square test (χ^2) value calculated to test the significant association among respondents and the benefits of using ChatGPT is significant at the 5% level.

Table 9 reveals that the majority of students, 349(90.9%), stated that ChatGPT is incapable of studying sources' quality and consistency. Next, 244(63.7%) indicated that ChatGPT cannot cite sources correctly. Finally, 126(32.8%) stated that ChatGPT can provide untrustworthy information on subjects with few citations.

Statements	Opinion	Gender					
		Male		Female		Total	
ChatGPT is not capable of studying the quality and consistency of sources	Yes	172	44.8%	177	46.1%	349	90.9%
	No	20	5.2%	15	3.9%	35	9.1%
ChatGPT is not capable of citing sources correctly	Yes	121	31.5%	123	32.0%	244	63.5%
	No	71	18.5%	69	18.0%	140	36.5%
ChatGPT can provide untrustworthy information on subjects with few citations	Yes	66	17.2%	60	15.6%	126	32.8%
	No	126	32.8%	132	34.4%	258	67.2%
ChatGPT can exhibit logical errors and contradictions	Yes	49	12.8%	41	10.7%	90	23.4%
	No	143	37.2%	151	39.3%	294	76.6%
ChatGPT can create incorrect or fake references	Yes	27	7.0%	30	7.8%	57	14.8%
	No	165	43.0%	162	42.2%	327	85.2%

Table 10. Students' opinion on the difficulty of using Chat GPT

Table 10 reveals that the majority of students, 349(90.9%), stated that ChatGPT is incapable of studying sources' quality and consistency. Next, 244(63.7%) indicated that ChatGPT cannot cite sources correctly. Finally, 126(32.8%) stated that ChatGPT can provide untrustworthy information on subjects with few citations.

5. Findings of the Study

- Out of 384 respondents, 192 (50.0%) are female and 192 (50.0%) are male respondents.
- Majority of the students 212(55.2%) are 2nd year postgraduate students and remaining 172(44.8%) who are 1st year postgraduate students.
- A large number, 144(37.5%) of the respondents, indicated that they acquired ChatGPT skills through the Internet, followed by Through Friends and family with 92(24.0%), News media with 82(21.4%), and Tutorials/Videos with 66(17.1%).
- About 150(39.1%) of them spent 1-2 hours, and only 18(4.7%) spent More than 3 hours on Chat GPT.
- Among 336 (87.5%) respondents primary purpose of using ChatGPT is to prepare for the examination, whereas 326 (84.9%) of them stated that, they use ChatGPT for course assignments, 318 (82.8%) of them use it to prepare notes

• Majority 322(83.9%) users ‘Strongly agree’ and 33(8.6%) ‘Agree’ with the statement ‘I believe that using ChatGPT has increased the convenience of completing my academic tasks’, followed by 302 (78.7%) of the students ‘Agree’ and 67(17.4%) ‘Strongly agree’ with the statement ‘I believe that answers/responses from ChatGPT are reliable and accurate’,

•The majority of students, 349(90.9%), stated that ChatGPT is not capable of studying the quality and consistency of sources. Next, 244(63.7%) indicated that ChatGPT is not capable of citing sources correctly. Finally, 126(32.8%) stated that ChatGPT can provide untrustworthy information on subjects with few citations.

6. Conclusion and Recommendation

The incorporation of AI into the education sector is quickly becoming a key medium for educational transformation. Data analysis exposed that the learners had a positive approach toward using ChatGPT for learning. It was found that students view ChatGPT as a valuable learning instrument, which they often rely on to work on different educational assignments, save time, provide information in a variety of subjects, and offer tailored instruction and feedback. The study suggested that since AI tools have become universal, the skills that students’ necessity to develop are how to use most effectively, evaluate answers, and recognize and keep away from possible bias. Academic institutions must think about establishing new courses on AI for scholars graduating in all specialisms. The Universities and professors must take a crucial stand on artificial intelligence in learning and offer guidelines to students concerning the moral use of ChatGPT.

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