



## The Impact of Chat GPT on Student's Behavior in UAE

Abeer Ammar<sup>1</sup>

<sup>1</sup>Researcher, United Arab Emirates

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### ABSTRACT

Chat GPT is an example of how artificial intelligence is radically altering the educational experience for students. A versatile tool that assists students with information retrieval and academic support is OpenAI's Chat GPT. Students are using it more, which is affecting how they learn, communicate, and solve problems". "Artificial intelligence (AI) is revolutionizing their digital interactions, collaboration, and information access and processing. Social and ethical issues are also discussed in educational discourse. The significance of understanding how Chat GPT influences student behavior is emphasized in this abstract, given the evolving landscape of education. The project's objective is to provide a comprehensive analysis of these dynamics while promoting effective and moral teaching strategies, The recommendation gives the decision-maker the opportunity to make appropriate strategic decisions.

### 1. INTRODUCTION

"The effect of Chat GPT on student behavior is an intriguing investigation into the evolving relationship between technology and education". "Chat GPT, a cutting-edge language model developed by OpenAI, is one of a slew of artificial intelligence (AI) tools that have made their way into students' classrooms and daily lives. Its impact on how students learn, communicate, and interact with educational content is becoming more visible and relevant in the digital age" [1]-[4]. "As we progress in this area, it becomes increasingly important to comprehend the multifaceted impact of Chat GPT on student behavior. This influence extends beyond academic assistance and touches on various aspects of the educational journey. Students use Chat GPT for more than just information" [5]-[8].

"In today's ever-changing educational landscape, the introduction of artificial intelligence, specifically in the form of chatbots like Chat GPT, has introduced a profound and transformative dimension". "It is critical to recognize and

comprehend the fundamental elements that underpin the impact of Chat GPT on student behavior" [9]-[12]. "These elements are critical in understanding how AI is changing the way students learn, communicate, and interact with educational content" [13]-[16].

"Within the context of modern education, students are increasingly immersed in a digital environment where AI-powered tools are ubiquitous". "Chat GPT, a cutting-edge conversational AI, plays a key role in this paradigm [17]. It serves as a versatile resource for academic support, information retrieval, and general interaction, allowing students unprecedented access to a wealth of knowledge and assistance". "To fully grasp the implications of Chat GPT influence on student behavior, it is necessary to provide context for these interactions" [18]-[21].

"But incorporating AI into education is not without its own set of difficulties". As students use Chat GPT more frequently, several queries and worries come up". "These include the possible effects on

conventional teaching strategies, social skills, and the moral application of technology in the classroom" [22]–[24], [25]. "Recognizing the difficulties presented by Chat GPT influence on student behavior is essential for gaining a deeper comprehension of its consequences".

"The primary motivation for this research is to investigate the complex relationships that exist between Chat GPT and student behavior" [26]–[29]. "The main goal of the study is to find out how students' interactions with Chat GPT impact their academic journey in terms of performance, learning habits, social interactions, and general wellbeing" [30]. "By doing this, we hope to present a thorough understanding of the benefits and drawbacks of integrating AI-driven technology into the classroom" [31]–[33].

"We use both quantitative and qualitative methods in our research, taking a multipronged approach". "To obtain in-depth information on Chat GPT's effects on students, we will use surveys, interviews, and behavioral analysis". "We will also examine the methods and approaches that can optimize Chat GPT's educational advantages while minimizing any potential downsides" [34]–[36].

"While we navigate the constantly shifting educational landscape, it is crucial to comprehend how Chat GPT affects student behavior". "This information is essential not only for teachers to improve their methods of instruction, but it also helps legislators, tech companies, and universities make informed decisions about how best to use artificial intelligence (AI) to improve student outcomes and support holistic development in the digital age [25], [37], [38]. The consequences affect how we adjust to technology's changing role in forming education and society in ways that go well beyond the classroom".

## 2. LITERATURE REVIEW

"A literature review of ten articles and research papers was conducted in order to determine the research gap and ensure that the topic is original". [1], [2], [39], [40] conducted the research study. "The authors used application of Chat GPT as independent variable, impact of teaching learning as dependent variable, educational experience enhancement as a mediating variable" [41]. "The results of this research indicate that it has a positive impact on teaching and learning as well as enhancing the educational experience" [5], [6],

[42], [43]. "The authors used Generative AI models, specific Chat GPT as independent variable, Societal Implications dependent variable, Policy, regulation, and responsible development practices as a mediating variable" [7], [8], [44], [45]. "The outcome of this research is to provide insights to inspire effective management in the field of generative AI". "The goal is to maximize the benefits of AI while minimizing potential risks in society" [9], [12], [46], [47].

[14], [48]–[50] conducted the research study. "The authors used Chat GPT Usage as independent variable, Student Motivation and Engagement dependent variable, Teacher Experience mediating variable, The main idea of this study was to investigate how teachers' and students' perceptions of Chat GPT affect the learning environment".

"Using the study based on the findings of [15], [51]–[53]. The primary objective of the research was to evaluate the effect of "Chat GPT usage" as an independent variable on the dependent variables of student motivation and engagement". "Additionally, it explored how "teacher experience" functions as both a moderating and mediating factor in the relationship between student motivation and Chat GPT usage" [54]. "The study sought to evaluate Chat GPT's impact in the classroom, with a focus on student motivation and engagement, and recommended its incorporation into education for improved learning outcomes" [18], [20], [52], [55]. " "Use of Chat GPT for Information-Seeking" is the independent variable in this theoretical study, and its possible effects are investigated". "Classroom engagement and information-seeking behavior of undergraduates are the dependent variables". " "Inquiry-Based Learning Theory," the mediating variable, is used to measure how actively students engage with the process of learning new information".

[22]–[24], [56] "This study investigates how Chat GPT, an AI-powered language model, is affecting higher education by looking at academics' and students' perspectives. It compiles opinions from 14 PhD candidates from various nations as well as seven academics". "Nine major themes that cover various facets of AI's impact on education are revealed using a thematic content analysis approach". "These topics cover everything from developing educational programs to ethical dilemmas and the value of human qualities" [57].

“Advancements in artificial intelligence and natural language processing as Independent Variable, Quality and capabilities of AI language models as Dependent Variable, Not specified in the provided information as Mediating Variable, Applications of AI language models in a variety of NLP tasks as Moderating Variable, and the Concept of the research is the impact of AI Language Models on AI Applications and Language Generation” [1]–[4].

[5]–[8] conducted the research study in United States, The Chat GPT Technology as independent variable, Impact on Different Fields and Applications as dependent variable, Advantages, Disadvantages, and Features of Chat GPT as a mediating variable, Field of Study or Application Area as Moderation Variable. The results of the study are to explore the origins, functions and impact of Chat GPT across disciplines, and the primary goal of this research and analysis is to investigate it as an innovative technology, delving into its beginning, operations and far-reaching impact in various fields“.

[9]–[12] conducted the research study in UAE, The authors used Chat GPT Technology as Independent Variable, Impact on Various Fields and Applications as a Dependent Variable, Advantages, Disadvantages, and Features of Chat GPT as a Mediating Variable, Field of Study or Application Area as Moderation Variable, This study examines the broad impact of Chat GPT across multiple industries, weighing its benefits, drawbacks, and features“.

[13]–[16] “Factors Affecting Students' AI Learning Intention as a independent Variable, Students' Behavioral Intention to Engage in AI Learning as a Dependent Variable, AI Literacy, Confidence in AI, AI for Social Good as Mediating Variable, Not explicitly mentioned, but could potentially be "Grade Level" or "Prior AI Exposure as Moderation Variable, Factors in Research Affecting K–12 Students' Intention to Learn AI“.

These cited papers discuss the effects of chat GPT on student behavior, however, this research discovered that very small number of papers are examining the chat GPT utilization in the education of the United Arab Emirates' students.” [18]–[21] This is the research gap filled by this study.

Determining whether Chat GPT is beneficial or harmful to students' learning abilities is the main goal of the study” [22]–[24], [25].

- “Verify people’s level of familiarity with the latest artificial intelligence tools”.
  - “Verify whether using GPT chat to perform tasks is ethically permissible”.
  - “To understand how student learning impacts academic achievement, engagement and skills development in UAE schools, it is necessary to examine the many influences on student learning”.
- ”This investigation takes into account any potential problems and inconsistencies in access and use.

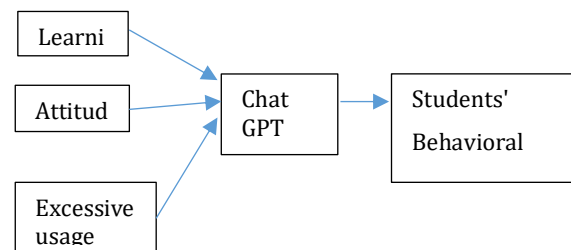
### 3. METHODOLOGY

The following Table 1. Shows the types and categories of variables used in this research.

Table 1. Variables

Variables	Category	Type
Learning	Independent	Demographic
Attitude	Independent	Demographic
Excessive usage	Independent	Demographic
Chat GPT	Mediating	Demographic
Students' behavioral	Dependent	Dichotomous

Figure 1. Conceptual Framework



As per the framework model, the following research questions are discussed:

- RQ1:** To what extend has learning been affected by Chat GPT?
- RQ2:** How is the attitude of students influenced by Chat GPT?
- RQ3:** Does chat GPT influence students towards excessive usage?
- RQ4:** Do you think there is any effect of Chat GPT on Students' behavioral?

### 4. DATA COLLECTION

Quantitative research uses an entirely different approach than qualitative. It focuses on using numerical data to test the relationships between various variables. Some examples of quantitative

approach include experiments, surveys, questionnaires etc. This approach generates data to create a numerical analysis. Approaches to Survey Deployment: Various methods exist for executing surveys. Common strategies involve utilizing email or online platforms tailored to a specific demographic, opting for print or phone interviews targeting specific individuals or locations, and employing online surveys to gain a comprehensive and impactful insight into the audience. Measurement Scale Overview: Researchers use measurement scales to classify and count variables with numerical significance. The choice of scale depends on the variable type and study precision needed. The quantitative approach has been chosen as the data collection method for this assignment. wherein we have chosen to use the survey approach the survey is being distributed online. Additionally, the survey is conducted once every response.

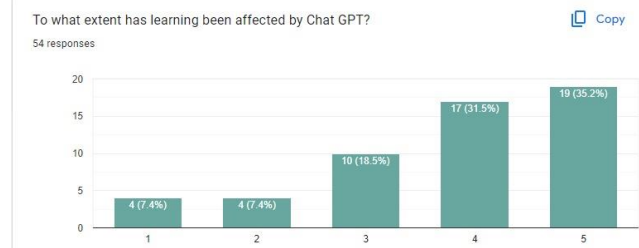
Probability sampling employs probability theory to randomly select individuals, ensuring equal chances for all in the target population. It includes:

- a. Simple Random Sampling: Randomly selecting participants from the entire population.
- b. Stratified Random Sampling: Dividing the population into subgroups (strata), then taking random samples from each subgroup to ensure representation.
- c. Cluster Sampling: Dividing the population into clusters, randomly selecting clusters, and including all members within those clusters in the sample.
- d. Systematic Sampling: Selecting every 'kth' individual from a list after a random starting point, such as choosing every 5th person from a list after a random start.

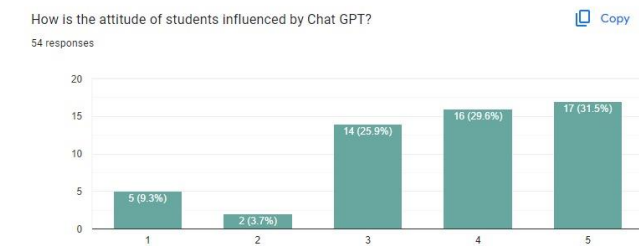
The selection of the probability sampling method in this research, aligns with the assignment guidelines, emphasizing the need for a random approach. Specifically, for our online survey, the simple random sampling method has been employed, entailing the random selection of participants from the entire population. Fortuitously, we surpassed our initial goal of 50 respondents, achieving a total of 54 participants in our online survey.

## 5. DATA ANALYSIS AND DISCUSSION

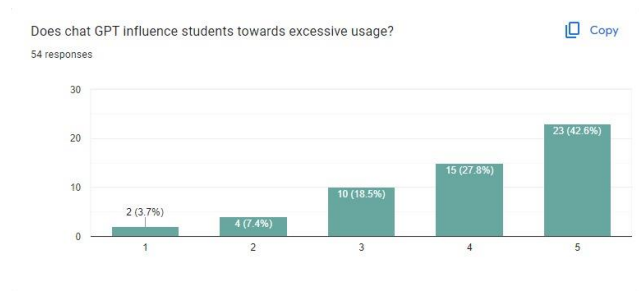
Descriptive analysis is adopted in this research paper as it is the most basic and important stage of using data in modern business. In order to provide an answer to the question "What happened?" dashboards are frequently used to summarize historical data. An example of how data is analyzed to find out "How Artificial Intelligence Affects Students' Learning Capabilities



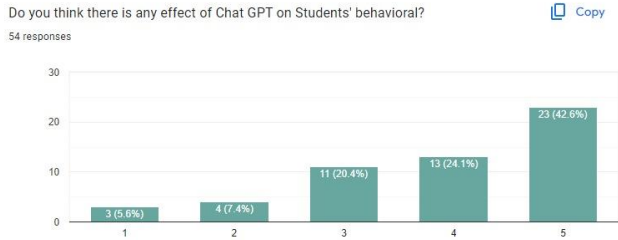
In the survey conducted, highest number of responses was given to (5) with a percentage of 35.2%. And lowest number of responses was given to (1) and (2) with a percentage of 7.4%.



In the survey conducted, highest number of responses was given to (5) with a percentage of 31.5%. And lowest number of responses was given to (2) with a percentage of 3.7%.



In the survey conducted, highest number of responses was given to (5) with a percentage of 42.6%. And lowest number of responses was given to (1) with a percentage of 3.7%



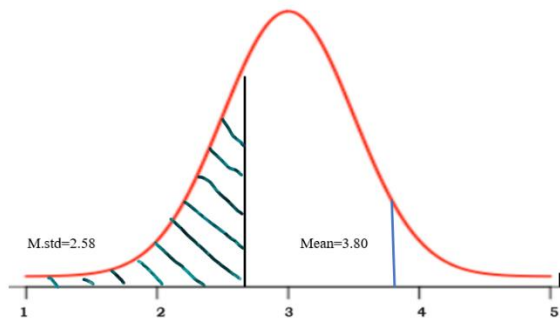
In the survey conducted, highest number of responses was given to (5) with a percentage of 42.6%. And lowest number of responses was given to (1) with a percentage of 5.6%.

Mean, Standard deviation and skewness:

RQ1: To what extent has learning been affected by Chat GPT?

Learning	
Mean	3.80
Standard Deviation	1.22
Skewness	-0.89

Min: Mean-Standard Deviation  
 Max: Mean+ Standard Deviation  
 Min: 3.80-1.22= 2.58.  
 Max: 3.80+1.22= 5.02

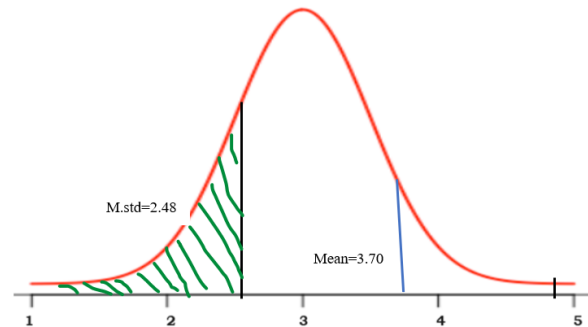


According to the data, ChatGPT has a moderately positive effect on learning (Mean=3.80), while participant variability varies somewhat (Standard Deviation=1.22). The range (2.58 to 5.02) shows a variety of answers, and the negative skewness (-0.89) shows a tendency towards lower impact ratings and a negative assessment on the left.

RQ2: How is the attitude of students influenced by Chat GPT?

Attitude	
Mean	3.70
Standard Deviation	1.22
Skewness	-0.82

Min: Mean-Standard Deviation  
 Max: Mean+ Standard Deviation  
 Min: 3.70-1.22= 2.48  
 Max: 3.70+1.22=4.93

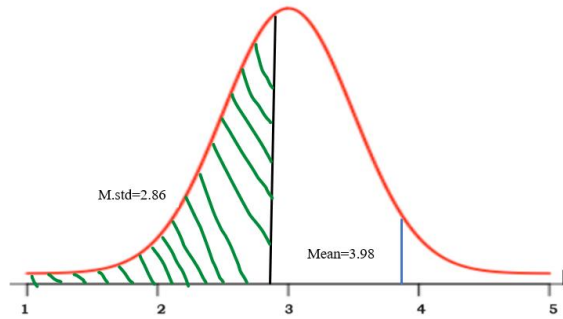


The data indicates that ChatGPT has a moderate average impact on learning (Mean = 3.70), with some response variability (Standard Deviation = 1.22). The skewness, which is slightly negative (-0.82), suggests a trend towards lower impact ratings. Based on data ranging from 2.48 to 4.93, it appears that participant experiences were varied. The results indicate a generally moderate impact overall, which emphasizes how crucial it is to comprehend the specific factors influencing these perceptions.

RQ3: Does chat GPT influence students towards excessive usage?

Excessive usage	
Mean	3.98
Standard Deviation	1.12
Skewness	-0.96

Min: Mean-Standard Deviation  
 Max: Mean+ Standard Deviation  
 Min: 3.98-1.12=2.86  
 Max: 3.98+1.12= 5.11

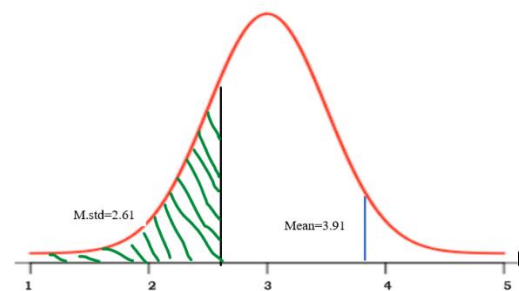


The information shows that ChatGPT has a strong average effect on learning (Mean=3.98) and that response variability is low (Standard Deviation=1.12). The skewness, which is strongly negative (-0.96), suggests that impact ratings are generally declining. The data indicates a moderate dispersion in participant perceptions, ranging from 2.86 to 5.11. In conclusion, a significant overall impact with little variation has been reported, with the majority of participants indicating that they felt the impact on their learning was less.

RQ4: Do you think there is any effect of Chat GPT on Students' behavioral?

<i>Students' behavior</i>	
Mean	3.91
Standard Deviation	1.20
Skewness	-0.90

Min: Mean-Standard Deviation  
 Max: Mean+ Standard Deviation  
 Min: 3.91-1.20=2.61  
 Max: 3.91+1.20= 5.11



The data indicate a large average effect of 3.91, indicating the strength of the effect. There appears to be some variation in participants' responses, as suggested by the moderate standard deviation of 1.20. A negative skew (-0.90) indicates a general decline in impact ratings. The data highlight a wide range of participants' perceptions, ranging from

2.61 to 5.11. In summary, a distinct overall effect was reported, with mixed responses, and many participants indicated that the impact on their learning was perceived as less than expected.

### 6. PRACTICAL IMPLICATIONS

Many practical solutions based on extensive research in this field. First of all, educational institutions should proactively design focused programs to equip students with the skills and resources needed to engage with technology, with the aim of reducing reliance on generic chat tools (Chat GPT). Institutions should consider strategies to create a positive environment and be mindful of the potential impact that AI may have on students' academic achievements. Furthermore, incorporating stress management practices or providing career counseling services into educational programs can provide students with the means to effectively overcome work-related challenges.

### 7. CONCLUSION

The study "The Impact of Artificial Intelligence on Academic Achievement" concludes by indicating that there is a strong link between academic achievement and artificial intelligence. These findings highlight the ongoing relationship between AI and student outcomes. This study provides a more comprehensive understanding of the difficulties students face in juggling a variety of commitments. This research shows the extent to which students rely on artificial intelligence, and how it will negatively impact them in the long term.

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