

Higher Education Students' Perceptions and Attitudes about Using ChatGPT in Oman: A Case Study of OCMT

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Abstract

This study aims to determine the role of ChatGPT as a virtual assistant for the students in higher education institutions in the Sultanate of Oman to enhance learning, foster their skill growth and improve their productivity. It also aims to identify how the students at Oman College of Management and Technology (OCMT) can use ChatGPT in an effective way, the advantages of using it, and the challenges that prevent it from being used in education, from their point of view, keeping in mind the ethical considerations that arise in the process. Some consider it as a support for the process of developing education, while others see it as a threat that affects its future. On the positive side, ChatGPT helps improve education, while on the negative side, it raises several concerns about fraud and plagiarism. Since the results of the survey showed that many students at Oman College of Management and Technology tend to use AI applications in their studies, the problem of this study emerged in the researchers' desire to explore the degree of students' use of ChatGPT, the advantages

of using it, the obstacles, challenges and ethical considerations that may affect its integration in education.

Keywords: ChatGPT, Oman College of Management and Technology, AI, Education, Learning.

1- Introduction

The emergence of technology had a significant impact on multiple fields, including education; Its rapid development has influenced educational systems. Technology can be integrated into it by considering several important aspects, such as identifying the problem to be solved, choosing the technology that best suits the learning goals, and developing strategies for effective use of technology (Ausat et al., 2023a). In this regard, AI technologies, such as ChatGPT, have opened up new possibilities in teaching and learning, as AI technology can aid and enhance education, and improve student performance and motivation in learning environments. Examining the ability of Chat GPT to aid self-paced learning is important to understand how chatbots and AI can best be used in education, and to guide the future of technology-assisted teaching and learning. Therefore, teachers and students alike can use these technologies to enhance their own learning and development. Similarly, Lastiri asserts that information technology can enhance teaching and learning, students' productivity, their efforts, and their ability to perform efficiently in their studies (Lastiri, 2022).

As many students at Oman College of Management and Technology tend to use artificial intelligence applications in their studies, the problem of this study emerged in the researchers' desire to explore the extent to which students tend to use Chat GPT, analyze its role in improving the quality of students' productivity, its advantages, and the disadvantages that they believe may prevent the expansion of its benefits in education.

The importance of this topic is highlighted as it reflects the impact of artificial intelligence on teaching and learning in Omani academic institutions, and there is no previous study that addressed the students' attitudes in using ChatGPT at Oman College of Management and Technology. It is hoped that the results of this study will be useful to those responsible for higher education in the Sultanate of Oman, and that it will be a fruitful addition to Arab intellectual literature on investing in artificial intelligence techniques in education.

Considering this, the study raises the following questions:

- Do students at OCMT use AI applications?
- For what purposes do students use ChatGPT in their studies?
- What are the advantages of using ChatGPT in education from the students' point of view?
- What are the challenges of using ChatGPT in education from the students' point of view?

2- Study Approach

The study used the descriptive analytical approach with the aim of collecting data on the use of ChatGPT application in learning by students at OCMT, presenting this data, analyzing it, and drawing conclusions. It used the questionnaire as a data collection tool to identify the students' use of the ChatGPT application and their opinions about its positive and negative aspects. The survey includes four main parts. The first one is about the characteristics of the surveyed students (name, department, gender, academic level, language most used by the student in research or using ChatGPT, use of AI applications for chatting, use of ChatGPT application in particular, ...etc.) The second part of the survey concerns the students' use of ChatGPT application in their studies (reasons of using the application in learning, the type of courses in which they use the application). The third part is related to the

advantages of the students' use of ChatGPT in their studies, and the fourth is about the application's disadvantages from their point of view. To measure the validity of the survey, it was presented to three arbitrators in education and quality from Sultan Qaboos University and Oman College of Management and Technology. The survey was prepared via Google Forms and made available to students during the months of May and June 2023 in the Spring semester.

The study population (Table 1) consists of 1200 students at OCMT at the age of 18 to 22, identified here as full-time undergraduate students. 308 students agreed to participate in the study, representing 25.7% of whom 192 students use AI applications, representing 62.3%. This is the actual number on which the study was applied and was a main condition to complete filling in the survey.

Table 1: Number of students participating in the survey

Study Program	Students number AY(2022-2023)	Number of students surveyed	%
Bachelor's degree	1200	308	25%
Postgraduate level (Master's)	4	-	-

3- Literature Review

3-1. AI Applications and Improving Learning

The study of Shidiq (2023) indicates that AI makes teaching and learning easier as several applications and tools are used, such as virtual mentor, voice assistant, smart classrooms, automated assessment, and self-learning. Those who use these tools are known as digital people, meaning those who use computers and the Internet better than the preceding generations. The AI affects the learning system to increase the competitiveness of graduates, who will be able to practice the learning process independently without the teachers' guidance and use open educational resources

and practices. Individuals are able to learn at their own pace and adapt their education to their personal needs and goals (Biswas, 2023).

One of the technologies that can be used to help improve student productivity, as it can be used as a virtual assistant that helps students do assignments, and provides information related to lectures, is ChatGPT. It is an example of a chatbot developed by OpenAI to be able to provide accurate answers appropriate to the questions of its users (Ausat et al., 2023b).

3.2. Advantages of using ChatGPT in Education

ChatGPT has changed the way people interact with machines, as it can - as an AI system - respond to user's inputs, opening new abilities in teaching and learning. It is also known as an AI-based chatbot with the ability to produce texts in different formats, whether it is formal, informal or creative writing. It is an AI-based natural language model that has been trained using very large data (Hassani & Silva, 2023). Therefore, Shidiq (2023) sees that it can be used for various purposes, as a virtual assistant to help students increase productivity.

With its ability to create writing that closely mimics human language and its ability to hold multiple ongoing conversations, ChatGPT is considered as a versatile tool that can aid open education by providing personalized support, guidance, and feedback to learners, thus increasing motivation and engagement. Likewise, ChatGPT can be used to assist students in learning and facilitate teachers' tasks. Therefore, ChatGPT can aid learning by providing relevant, high-quality reading materials to students (Kasneci et al., 2023).

Thus, with the ability to process natural language, ChatGPT can produce texts in easy-to-understand language appropriate to the students' level. Teachers also can use ChatGPT to create high-quality reading materials that meet students' needs. In addition, ChatGPT can also be used to generate automated questions and quizzes. Its

ability to understand natural language and generate text enabled it to create distinguished questions and tests that match students' levels of understanding (Cooper, 2023). Surprisingly, ChatGPT can serve as a source of support and motivation for students; they can use it to talk about their stresses and concerns, or to ask for advice on how to better manage their time and tasks (Haleem et al., 2022).

As a language model trained by OpenAI, ChatGPT can play a role in helping improve the quality of students' productivity in various ways; it can provide useful information and resources for students to acquire the knowledge needed to complete their assignments and projects (Kasneji et al., 2023). Moreover, students can ask ChatGPT questions about a specific topic and the language model will provide answers based on online information. ChatGPT can also provide suggestions about books and articles related to the topic the student is discussing (AlAfnan et al., 2023).

3.3 Disadvantages of using ChatGPT in Education

Hutson's study (2022) indicates that there is an urgent need to discuss the use of ChatGPT and its negative effects on students who use it to carry out tasks, especially in performing tasks related to creative writing. Likewise, technology can be just a tool, but cannot completely replace the teacher. Therefore, it is necessary to integrate technology into learning in an appropriate and effective way and develop teachers' competence in managing learning using technology.

Firat's study (2023) mentions several challenges related to using ChatGPT in developing students' creative writing skills, including that learning requires direct interaction by the teacher, while ChatGPT cannot do this. ChatGPT cannot identify the nuances and learning styles, which may be different for each student. The study indicates that excessive dependence on ChatGPT weakens individuals in critical thinking such that it is difficult for individuals (users) to solve problems that may arise in daily life. Zen's study (2023) as well confirms that the role of the teacher in

the classroom is very important and cannot be completely replaced by technology. The teacher is the person who can effectively give instructions and guide students in their learning process. On the other hand, others assert that although ChatGPT has excellent power to develop teachers in new ways, it is necessary to consider how to use this technology responsibly and ethically to enhance work instead of misusing it (Lund & Wang, 2023).

Moreover, ChatGPT can only generate text but cannot provide direct explanations or examples like teachers can. One of the most common uses of ChatGPT is to generate automated text. For example, a researcher can use ChatGPT to create a report or an article faster than if he were to write it himself. However, this does not mean that ChatGPT will completely replace a researcher's work. The researcher still needs to analyze the data and come to appropriate conclusions, which ChatGPT cannot do. In this case, ChatGPT can help lecturers and researchers in their work. They can use it to create raw texts that can then be edited and revised (Ausat et al, 2023a).

In education, ChatGPT can be used as a tool in the learning process and not a substitute for the role of the teacher. Although ChatGPT can make an important contribution to aid teachers, it still requires the presence of the teacher to provide guidance and more in-depth assessment of students' abilities. Basically, using ChatGPT in the classroom can make the teacher's task easier and help students in learning (Haleem et al., 2022). However, teachers' role as mentors and guides cannot be completely replaced by technology. Therefore, ChatGPT can be used as an aid in the learning process but not as a substitute for the role of the teacher. In addition, an effort should be made to integrate technology into learning in an appropriate way.

4. Study Results and Discussion

4.1 Characteristics of the Students Participating in the Study

(308) students participated in the study survey, (248) female students, representing 81%, and (60) male students, representing 19%. The students participating in the study and using AI applications (Table 2) in their academic studies are divided into four basic departments: The General Foundation Program Department (92) students, representing 29.8% of the total participants in this study, from college students (308). (216) students are from other academic departments, representing 70.2% of the total participants in this study. (100) students are from the department of Interior Design, (32) students from the department of Computer Sciences and MIS, and (84) students from the department of Admin. & Financial Sciences.

Table 2: Academic departments of students participating in the survey

Department	Number of Students	%	Number of Students (GFP/ AD)	%
Interior Design	100	32.5%	216	70.2%
Computer Sciences and MIS	32	10.4%		
Admin. & Financial Sciences	84	27.3%		
GFP	92	29.8%	92	29.8%
Total	308	100%	308	100%

Regarding the participants' use of AI applications (Table 3), 192 students (62.3%) indicate that they use AI chatting applications, while 116 students (38%) state that they do not use it. The most frequently used AI chatting applications by students were respectively: ChatGPT at (37.7%) of the total number of students using AI applications (105 students), while students use other AI chatting applications, such as Chatbot at (14%), Claude at (12%), and Sage at (9%).

Table No. 3: Participants' use of AI applications

Category	Number of students	%
Students using AI applications	192/308	%62.3
Students using ChatGPT	124/192	%64.6
Students using ChatGPT in studying their courses	105/124	%100
Students using ChatGPT in studying courses related to English Language	89/105	%84.8
Students using ChatGPT in studying courses related to their major	72/105	%68.6

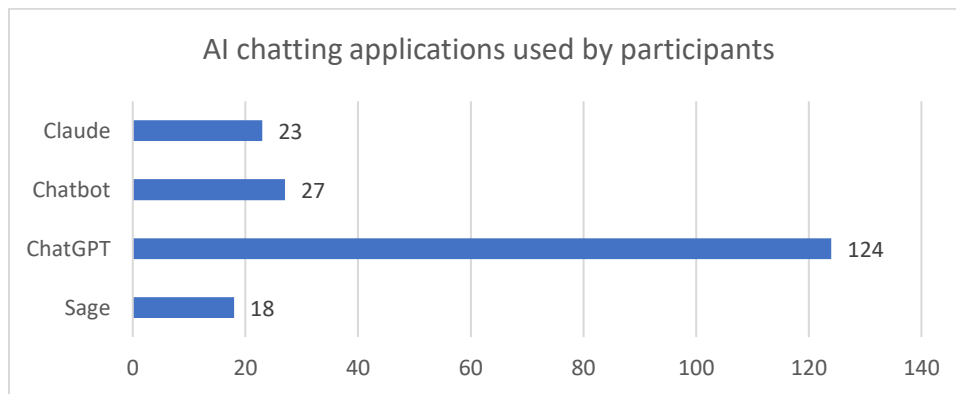


Figure 1: AI chatting applications used by participants

4.2 OCMT students' use of ChatGPT in their studies

Regarding the students' use of ChatGPT application in their studies, 105 out of 124 students who use the application (84.7%) stated that they used it for academic purposes in their studies at the College during the Summer semester 2022-2023. Concerning the frequency of using it, 19% of this group of ChatGPT users chose "always", 17% indicated "often", 36% selected "sometimes", and 28% chose "rarely".

Table 4: The frequency of students' use of ChatGPT

Frequency	Number of students	%
Always	20	19%
Often	18	17%
Sometimes	38	36%
Rarely	29	28%
Total	105	

As for the most common languages used by the students for ChatGPT during their study of courses (105 students), they are in order according to the degree of use from highest to lowest: English 100%, followed by French 7.6%, and Turkish 1%. The students' use of English as their first choice in research and conversation on ChatGPT can be explained by the fact that most of the compulsory and elective courses (requirements of academic departments) are in English language, while college required courses (Arabic language, Omani society, ...etc.) are taught in Arabic, but their number is less than English language courses, making it the first language in Students' use of AI applications such as ChatGPT. However, a small percentage of students use the French language in chatting; due to the presence of some non-Omani students studying at the College from the Maghreb or Francophone countries (French-speaking).

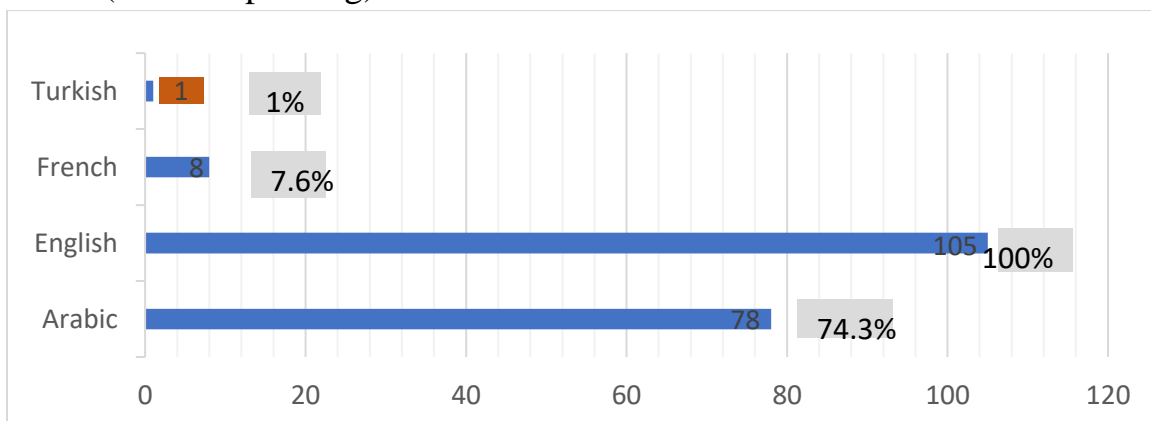


Figure 2: Languages used by students in chatting in ChatGPT

Concerning the academic activities in which students use ChatGPT or their purposes for using the application (Table 5), the study found that all students using the application (105 students) use it for several purposes related to the study, which are searching for information to understand topics 100%, preparing presentations 65.7%, preparing assignments 60%, searching for information to enrich the educational aspect 45.7%, translation 2.9%, answering previous exam questions 2.9%. This means the diversity of learning activities in which students use the application and that it helps them enhance their level of academic and cognitive achievement.

Table 5: Academic activities in which students use ChatGPT

Activities related to teaching and learning	Number	%
Searching for information to understand topics	105	100%
Preparing presentations	69	65.7%
Preparing assignments	63	60%
Searching for information to enrich the educational aspect	48	45.7%
Translation	3	2.9%
Answering previous exam questions	3	2.9%

Regarding students' belief that their GPA improved because of using ChatGPT application (Table 6), 13% of students believe that "their GPA increased to a great extent," 54% believe that "it increased to some extent" or "it increased slightly," while a third of the students (33%) believe that their use of the application did not affect their GPA. Therefore, (Table 7) reflects students' satisfaction with their use of ChatGPT application. A third of the students using the application (33%) believe that they are likely to recommend the application to other students to benefit from it in their studies, and nearly half of the students (49%) believe that they are in some way likely to recommend it to other students. This means that the majority of students (82%) support the idea of recommending ChatGPT to other students. Nevertheless, a small percentage of students, 18%, said that it is unlikely or somewhat unlikely that they would recommend using the application to other students. This is explained by

the fact that a percentage of students (28%) “rarely” use the application (see Table 4), and that some of them may not know all the features the application offers to support learning.

Table 6: Effects of students’ use of ChatGPT on their GPA

Effect of use on GPA	Number of students	%
increased significantly	14	13%
increased somewhat	39	37%
increased slightly	18	17%
It didn't affect	34	33%
Total	105	100%

Table 7: Likelihood of recommending ChatGPT to other students

Likelihood	Number of students	%
Very likely	35	33%
Somehow likely	51	49%
Somewhat unlikely	10	9%
Very unlikely	9	9%
Total	105	100%

4.3. Advantages of using ChatGPT:

When the students participating in the survey were asked to explain the advantages of using ChatGPT application (Table 8), the most important advantages of using it from their point of view were that “the application helps them answer any questions related to the course they study” (100%), and “it helps them find information relevant to their studies” (100%) by providing relevant resources, articles and papers based on the research topic, “saving their time searching for information related to their studies” (95.2%), “the application is easy to use and simple” (93.3%), and that it is “for free” (88.6%), and that it “helps them correct and edit articles” (71.4%), providing feedback on grammar, sentence structure and content.

However, the least advantages of using the application from the students' point of view are that it is "a motivating tool for self-learning" (57.1%), that it "provides interactive activities and questions that are compatible with their academic courses" (48.6%), and that it "provides personal support and guidance", helping them with their study and answers their questions (40%), and "a tool that provides an outline for any topic related to their studies" (31.4%). This clearly indicates the point of view of a large percentage of students at Oman College of Management and Technology that ChatGPT helps them in many activities related to learning. This is consistent with the study of Fauzi et al (2023) which indicated that ChatGPT can make a significant contribution to improving the quality of students' productivity and improving their performance and motivation in learning environments. This is by providing personalized and interactive assistance to students, providing useful information and resources, helping improving language skills, facilitate collaboration, increase time efficiency and effectiveness, and provide support and motivation. An important aspect of the advantages of using the application is due to being a chatbot based on AI, capable of interacting and facilitating tasks (Faiz, 2003), and to the ease of using the system and obtaining a response to questions posed by the user in the form of text or voice.

On the other hand, students did not mention other features in ChatGPT that they could use and increase the benefits of the application in their academic activities, such as personalized learning; they can use the app to get personalized recommendations for learning resources and activities based on the student's learning goals and preferences, and to schedule reminders for upcoming assignments and tests. This indicates the need to train students at the College on the advantages of using ChatGPT in their studies. Biswas's study (2023) suggests that ChatGPT can help students with their class schedules and set reminders for upcoming assignments and tests. Furthermore, it can make personalized recommendations for learning

resources and activities based on a student's learning goals and preferences and use it as a tool to improve their grammar, expand their vocabulary, and improve their writing. (Cotton & Shipway, 2023).

Table (8): Advantages of using ChatGPT for students at OCMT

Advantages of using ChatGPT	Frequency	%
It helps me answer any questions related to the course I study	105	100%
It helps me find information relevant to my studies	105	100%
Saving time searching for information related to my studies	100	95.2%
It is easy and simple to use	98	93.3%
It is for free	93	88.6%
It helps me correct and edit articles	75	71.4%
It is a motivating tool for self-learning	60	57.1%
It provides interactive activities and questions that are compatible with academic courses	51	48.6%
It provides personal support and guidance	42	40%
It is a tool that provides an outline for any topic related to my studies	33	31.4%

4.4. Disadvantages of using ChatGPT:

When the students participating in the survey were asked to identify the disadvantages of using ChatGPT in their studies (Table 9), the most negative aspects from their point of view were that “there is no possibility to work with images in ChatGPT” (77.1%), “it weakens individuals’ ability in critical thinking” (31.4%) because, from their point of view, ChatGPT cannot identify learning styles of students, which may be different for each individual. Also, excessive reliance on ChatGPT can weaken the student’s information analysis and critical thinking skills, and that “information is not always accurate” in ChatGPT (23.8%) %, and that using ChatGPT “is considered cheating” (19%) because they believe that the student will rely too much on the application and thus rely on AI to complete the work. The researchers in this study believe that some of the negative aspects identified by the

students comes from the fact that this technology is new, and that students need to properly understand more of its capabilities and limitations, and this is what Firat's study (2023) indicated. Moreover, students' use of ChatGPT will support the academic staff's role in teaching, guidance, counseling, and in-depth assessment of students' abilities. ChatGPT is also a quick way to get a summary of important concepts, facts, principles, or terms, and thus may be useful for an adult learner who needs a quick overview of some area of knowledge, create raw texts and speed up the writing process. It provides personal support, guidance and feedback to learners, thus increasing motivation and engagement.

Table (9): Disadvantages of using ChatGPT

Disadvantages	Frequency	%
There is no possibility to work with images	81	77.1%
It weakens individuals' ability in critical thinking	33	31.4%
Information is not always accurate	25	23.8%
It is considered cheating	20	19%

Study Suggestions

Considering the results of the study and its discussion, and to enhance the use of ChatGPT in improving learning productivity for higher education students, the study proposes to those responsible for education and QA at OCMT the following:

- Using ChatGPT as a complement to other learning methods and supporting the technology currently used at OCMT for educational purposes, as it can be used to enhance the learning experience, develop students' skills in summarizing information, recognizing and explaining concepts. It also provides useful information and resources, improving language skills, and providing support and motivation, providing interactive activities and questions that align with courses and improve the learning experience by providing personalized and interactive

support, improving the quality of learning and providing greater benefits to learners and teachers.

- Lecturers should make an effort to enhance their skills and knowledge in using technologies such as ChatGPT, and take an active role in combating acts of academic fraud that can be committed using AI technologies such as ChatGPT.
- Increase training programs for students to develop their competencies and provide them with the skill of dealing with ChatGPT and other technologies. Training can be conducted periodically and continuously to update their knowledge and skills in managing learning using technology. Teachers also should have a sufficient understanding of the technology used and be able to use it well in learning.
- There should be clear regulations and policies for the use of ChatGPT and other technologies to ensure and maintain academic integrity.

Conclusion

ChatGPT can be a useful tool to help students improve the quality of their productivity, and help students achieve their academic goals. ChatGPT's role in improving the quality of student productivity should be viewed as an adjunct and not a substitute for human interaction and students' hard work in achieving their academic goals more effectively and efficiently and improving learning. However, ChatGPT raises several concerns, such as concerns related to cheating, increased cases of plagiarism, and so on. Therefore, the College should establish a clear policy for the use of ChatGPT and other technologies to ensure that academic integrity is maintained.

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