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The Effect of Employing ChatGPT to Enhance the Searchability among Female Researchers

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Abstract

The current study aimed to reveal the effect of employing ChatGPT in enhancing searchability among female researchers. The importance of the current research lies in its contribution to providing a motive for employing ChatGPT in scientific research and provides a measure for examining the ability to employ ChatGPT in scientific research and directing them towards it. The study followed a quasi-experimental design with one group (pre-post) test. The study sample consisted of 23 students chosen intentionally from the research seminar course in the master's program in curriculum and teaching methods at the College of Education at the Islamic University. A searchability scale was used to answer the study's main question. The results showed that there are statistically significant differences between the female student's grades in the pre- and post-application in favor of the post-application in all domains of the scale and the scale as a whole. The researchers recommend utilizing ChatGPT to overcome scientific research obstacles, and increase the number of scientific studies in this field.

Keywords

Searchability, ChatGPT, Female Researchers, Effect

1. Introduction

Artificial intelligence is the mainstay of the technology of the age. There is hardly a modern program that does not use artificial intelligence, whether in its old style through simple algorithms, programs that use machine learning, or programs that use deep learning. These uses were not limited to the industrial sector as it was known in the past, but they became popular in various aspects of life such as medicine, trade, economy, and education.

Artificial intelligence is used in the field of education to enhance instruction

and support the learning process. AI can be used to recognize a student's abilities, and learning style, and choose the best method for teaching them. AI can also be used to create customized learning content for each student, tailored to their level and abilities. (Xia, Chiu, Zhou, Chai, & Cheng, 2022)

AI can also be used to monitor a student's progress in the learning process and determine their level of progress and their educational needs. It can also analyze student data to identify factors that affect their performance and provide the necessary support for them.

For AI-based education, a variety of technologies are available, including adaptive learning systems, learning analytics, and intelligent tutoring systems. With the aid of these technologies, educators can enhance their instructional strategies while giving students a more individualized and successful learning experience.

In December 2022, ChatGPT appeared, which made a quantum leap in the world of artificial intelligence tools, standing out for its greater capacity to comprehend natural language and interact with users realistically and naturally.

Numerous industries, including business, healthcare, entertainment, and other areas, use ChatGPT. The ease with which users can communicate, talk, and receive accurate responses as well as timely information can be used to promote interpersonal communication. (Haleem, Javaid, & Singh, 2022)

It is significant to highlight that ChatGPT represents a significant advancement in artificial intelligence because of its superior capacity for comprehending natural language and delivering precise and helpful responses to users. As one of the most extensively utilized technologies in the current period, it also offers consumers an engaging and seamless experience.

ChatGPT has demonstrated its efficacy in numerous situations and has been utilized in educational institutions, research facilities, governmental agencies, and private businesses to enhance communication and offer users support and assistance. ChatGPT can be considered a significant advancement in technology and a change in how future communication will take place.

ChatGPT is defined as a cutting-edge language model that modifies OpenAI's language model, the Generative Pretrained Transformer (GPT). (Mhlanga, 2023)

Or a general-purpose conversation chatbot created by OpenAI that uses the GPT-3 language model. (Zhai, 2022)

Several studies mentioned the importance of using ChatGPT in various fields, including Baidoo-Anu & Owusu Ansah (2023) who talked about the importance of ChatGPT in enhancing learning, especially self-learning more interactively, and its impact on formative assessment practices.

Haleem et al. (2022) also indicated the importance of ChatGPT in remembering, supportive communication, follow-up, and corrections, and the emergence of some restrictions for content that shows bias, through which it is possible to understand the market, analyze data, and save time and effort for researchers.

"ChatGPT can be used in various ways to enhance learning experience. One of its most important applications is language practice and language correction. With ChatGPT, students can improve their writing skills and receive feedback on their grammar and syntax. Another useful feature is the ability to generate test questions and design worksheets. ChatGPT can also help in summarizing lessons, defining concepts, and comparing historical events".

In addition, ChatGPT can provide guidance and advice on various topics, help in lesson planning, and suggest activities for both curricular and extracurricular activities. ChatGPT can also be used to build a training curriculum for specific skills or to obtain feedback on student work. Furthermore, ChatGPT can be used to enrich a classroom wall magazine, suggest articles, and even provide scientific research for students to explore.

Undoubtedly, ChatGPT has helped many researchers write their research papers. The task of resorting to other people has become less daunting through its use. Doctors, for example, no longer need to understand the physics of CT and MRI scans in detail but just make sure they interpret these pictures. Some researchers do not need to understand all the mathematical principles of statistics, and their task becomes how to apply and interpret these formulas. (Chen, 2023)

Through our research, we prepared 10 research assignments for the female researchers to conduct and benefit from in order to prepare their research plans. These tasks did not include the plan in all its parts, but part of each chapter in the research plan, while teaching them how to document what they considered research ethics during their study.

Despite the many advantages offered by ChatGPT, there are several problems that restrict it, and this has been clarified in several studies, such as the Gupta et al., (2023) titled "ChatGPT for Designing Course Outlines: A Boon or Bane to Modern Technology", which showed that despite the distinction of ChatGPT in preparing charts, it is unable to outperform human experience in this field, its inability to understand the exact contexts, the possibility of errors and biases in the plans it presents, its inability to adapt to changes that may occur, such as the needs of some trainees, changing goals, and its inability to simulate interaction. Human in all its aspects and the existence of knowledge gaps in the content it provides.

Sallam (2023) entitled "The Utility of ChatGPT as an Example of Large Language Models in Healthcare Education, Research and Practice: Systematic Review on the Future Perspectives and Potential Limitations" mentioned other concerns related to the confidentiality of data and information, the spread of misleading information through ChatGPT, issues related to authors' rights and originality, and its presentation of some information that contradicts the laws. Moreover, Rudolph et al. (2023) which is entitled "ChatGPT: Bullshit spewer or the end of traditional assessments in higher education?", stated that due to the presence of some boring written tasks for students, they may assign them to ChatGPT to write them, and the difficulty of teachers' ability to detect these plagiarisms. Farrokhnia et al.

(2023) entitled "A SWOT analysis of ChatGPT: Implications for educational practice and research" that the use of ChatGPT in deep understanding of the curricula does not consider the individual differences between students and does not consider the different cultures of students, which leads to the preparation of very easy or very difficult methodological recommendations.

Lo (2023) which is entitled" What Is the Impact of ChatGPT on Education? A Rapid Review of the Literature" sheds light on the use of GBT chat as a virtual trainer for students and the creation of many false information, except for its violation of academic integrity, which required students, teachers and school administrations to be aware of the nature of plagiarism and how to deal with these techniques ethically.

In (Adewale, 2025) study, titled "Exploring ChatGPT usage amongst female academics and researchers in the academia" she spoke about the concerns of some of the female researchers in the study sample regarding unethical practices when using ChatGPT in scientific research.

As for the current study, the researchers' concerns are related to their failure to revise the information provided by ChatGPT, or to consider the ethics of scientific research when using it. But in the end, as researchers, we must benefit as much as possible from any technological innovations and not reject them because of these concerns, but rather deal with them according to research ethics. (**Figure 1**)

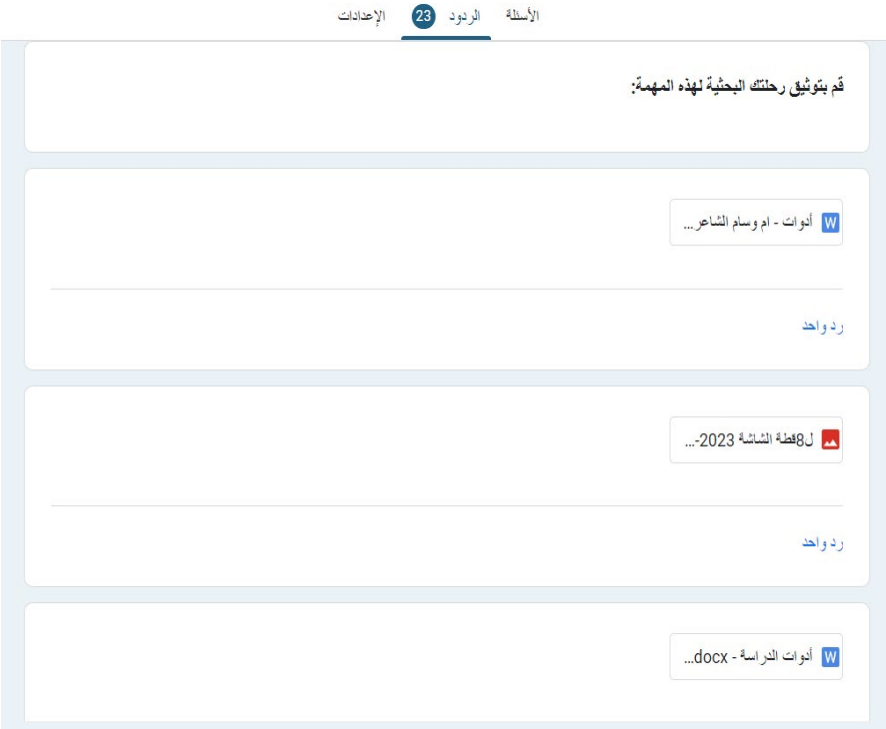

Figure 1. ChatGPT showing the results of research assignment 7.

The research tasks were as follows:

Research assignment (1): Write a ChatGPT introduction of no more than 5

lines.

Research assignment (2): Write two questions for your study using ChatGPT.

Research assignment (3): Write one hypothesis for your study using ChatGPT.

Research assignment (4): Write two points of importance of your study using ChatGPT.

Research assignment (5): Write two points from the objectives of your study using ChatGPT.

Research assignment (6): Write a definition for each of your study variables using ChatGPT.

Research assignment (7): Ask ChatGPT about the appropriate curriculum and design for your study.

Research assignment (8): Ask ChatGPT about the appropriate tools for your study.

Research assignment (9): Ask ChatGPT about the appropriate statistical methods for your study.

Research assignment (10): Ask ChatGPT for some Arabic and foreign references that are appropriate for your studies.

We have created a box within the research assignments that is concerned with delivering a copy of the conversations that took place between the researcher and ChatGPT to ensure that the researcher has used the tool as required, as shown in the attached image (Figure 2):

Figure 2. The mechanism of delivering conversations between the researcher and ChatGPT.

Overall, ChatGPT is a versatile tool that can aid in many different aspects of the learning process, providing students with a personalized and interactive learning experience. (ChatGPT3.5, 2023)

ChatGPT can improve the ability of scientific research by assisting researchers in obtaining information widely and from multiple sources, formulating their research questions and hypotheses, conducting textual analysis of information, translating research, and other research matters.

For ChatGPT to have an effect on the search, its users must have the ability to use it.

Therefore, the researchers adopted a scale of susceptibility based on what other researchers presented in their study of technology acceptance in general, such as Alemrany, et al. (2023); Mahdi (2014), Owda (2020), where they confirmed that it is one of the biggest challenges facing educational institutions in terms of technology use behavior among individuals and it was invented by (Davis, 1989) Who assumed that the basis of this acceptance is perceived benefit, ease of use, experience, desire to know technology, understanding the user's environment and the extent of his acceptance of it, breaking the barrier of resistance to change in the user's mentality, and removing any fears he has, whether in terms of protecting confidential data or privacy.

The susceptibility scale was built based on similar studies that measured other technological variables, such as the Alemrany et al. (2023) and the Mahdi (2014) study. After examining these two studies, four axes were adopted for the scale: perceived usefulness, perceived ease of use, behavioral intention to use ChatGPT technology, and organizational culture.

The problem of the study is the weakness of researchers in using technological innovations to facilitate their research tasks, especially tools related to artificial intelligence.

This study aims to answer the main research question: What is the effect of employing ChatGPT to enhance searchability among female researchers?

According to the previous causes, the current research seeks to answer the following sub-questions:

1) What is the level of achievement of using ChatGPT in terms of the female researchers' capacity to use it in their research?

2) Are there any statistically significant differences between the female student's grades on the ChatGPT employability scale in the research pre- and post-application?

This study aims to answer the main research question: ChatGPT doesn't achieve a degree of acceptance for its use in research among female research students of more than 80%, and there are no statistical differences between the female student's grades on the ChatGPT employability scale in research pre- and post-application.

The current research aims to determine the level of achievement of ChatGPT for the degree of susceptibility to employing it in research among female students, and to determine the significance of the differences between the students' grades

in the ChatGPT employment scale in the research among the students' pre- and post-application.

The current research is important as it contributes to providing a motive for employing ChatGPT in scientific research, provides a measure for examining the ability to employ ChatGPT in scientific research that other researchers can benefit from, and directs researchers to the importance of employing ChatGPT in scientific research.

The limits of the research are limited to all students enrolled in a research seminar course in the Master of Curricula and Teaching Methods at the Faculty of Education at the Islamic University of Gaza, where the research was applied in the second semester of the academic year 2022-2023 for approximately two weeks. The total number of students enrolled was 23 female students from the same university.

The researchers define the research terms operationally as ChatGPT, an AI language model, which is a computer program that uses NLP techniques and deep learning algorithms to analyze and generate human-like responses to textual inputs. Its performance is determined by the specifications and input data used during its training. (ChatGPT, 2023), Searchability is operationally defined as the researcher's readiness to efficiently access the information required for their research through ChatGPT, and is influenced by the basic constructs of the technology acceptance model: perceived usefulness, behavioral intention to use ChatGPT, and perceived ease of use. This definition reflects the premise that recognizing the tool's value, finding it easy to operate, and having the intention to use it are integral factors that enhance the effectiveness of search-related tasks, and organizational culture to conduct the research in the best possible way, female Researchers according to this study, it refers to female academics at the master's level who are studying research seminar course at the Faculty of Education at the Islamic University in Gaza, and effect it is the ability to bring about change, whether negative or positive, as a result of experimenting with ChatGPT in scientific research among female researchers.

2. Method

The researchers followed the experimental approach with a quasi-experimental design (pre-post) for one group. The researchers chose the research sample intentionally, which consisted of (23) students from the research seminar course in the master's program in Curriculum and Teaching Methods at the College of Education at the Islamic University, to improve their research ability by employing ChatGPT technology. After reviewing the educational literature and previous studies to identify how to construct the searchability scale, such as (Owda, 2020) study, (Alemrany et al., 2023; Mahdi, 2014) the searchability scale was built by employing ChatGpt technology, where domains were identified related to the scale, which was represented by the following areas (Perceived usefulness, perceived ease of use, behavioral intention to use ChatGPT technology, organizational cul-

ture) and a set of indicators was built for each of the previous areas, which are as follows (8, 5, 3, 2) indicator, this has five levels were determined, according to the Likert five-point scale, to estimate the searchability from the point of view of students in a research seminar course for all fields.

Content validity was relied upon through its representation of the procedural definition to verify the validity of the scale. The validity of the scale was also confirmed by presenting it to a group of specialists in the field and making the necessary adjustments. To ensure consistency with the internal scale, correlation coefficients were calculated between the domain and the scale as a whole. The correlation coefficients for the domains of the scale were as follows: (0.889, 0.779, 0.654, 0.694), which is statistically significant at the level of 0.01). To verify the reliability of the scale, the reliability of the scale as a whole and its indicators were calculated using Cronbach's alpha coefficient. The value of the reliability of the scale was (0.875), which is a reliable value indicating the possibility of using the scale. Thus, the scale becomes in its final form, consisting of (4) main domains and (18) sub-indicators.

The research experiment was implemented in the second semester of the academic year 2022-2023 after the students were introduced to the ChatGPT technology and its mechanism of use. Then they determined the basic skills that represent the research seminar course, built a set of related assignments, and asked the students to implement them through ChatGPT technology. As this experiment lasted for two weeks, it started with the pre-application of the tools and ended with the post-application. Then monitoring the results and processing them statistically using the SPSS version (22). (**Figure 3**)

3. Findings

To answer the research questions, the researchers tested the research hypotheses. The results were as follows:

The results of the first question:

To test the first hypothesis, which states: ChatGPT doesn't achieve a degree of acceptance for its use in research among female research students of more than (80%).

The researchers used a one-sample "T-test" using the SPSS version (22), and **Table 1** shows the results of the application.

Table From the previous table, the value of "t" is statistically significant, as the level of significance (0.000) is less than (0.05). The calculated arithmetic mean was greater than the critical mean, which corresponds to (80%). Thus, we attach the null hypothesis and accept the alternative hypothesis that states ChatGPT achieves a degree of acceptance for its use in research among female research students of more than (80%).

The results of the second question:

To test the second hypothesis, which states that there are no statistical differences between the female student's grades on the ChatGPT employability scale in

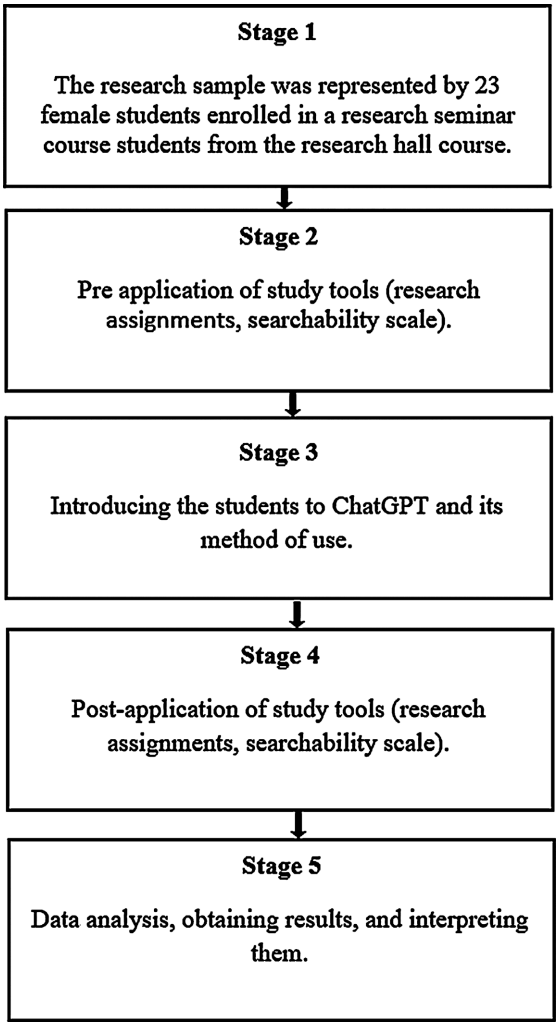

Figure 3. The mechanism of experiment stages.

Table 1. The significance of the differences between the degrees of searchability and the level of quality.

Scale	M	S. D	df	T-test	Sig
Searchability Scale	77.78	7.29	22	51.59	0.000

the research pre- and post-application.

The researchers used the "Paired Samples T-test", and Table 2 shows the results of the application.

From the previous table, the value of "T" was statistically significant in the four axes of the scale and the scale as a whole. The level of significance was (0.000), which is less than (0.001). Thus, we reject the null hypothesis " there are no statistical differences between the female student's grades on the ChatGPT employability scale in the research pre- and post-application" and we accept the alternative hypothesis "there are statistical differences between the female student's grades on the ChatGPT employability scale in the research pre- and post-applica-

tion" in favor of the post application in all domains of the scale and the scale as a whole.

To determine the effect size, the value of (η^2) was calculated as shown in Table 3. The value of the effect size in all areas of the searchability scale and the scale as a whole was more than (0.9) for female researchers.

Table 2. Showing the results of the "Paired Samples T-test" for the domains of the pre-post scale.

Field	df	Test	M	S. D	T-test value	Sig
F1	**22**	Pre	8.869	1.740	31.77	0.000
		Post	34.435	3.871		
F2	**22**	Pre	5.565	1.160	22.83	0.000
		Post	20.435	2.825		
F3	**22**	Pre	3.261	0.688	34.02	0.000
		Post	14.000	1.279		
F4	**22**	Pre	2.478	0.593	24.24	0.000
		Post	8.913	1.083		
Total	**22**	Pre	20.174	3.651	35.59	0.000
		Post	77.229	7.229		

Table 3. The effect size (η^2) of using ChatGPT on the searchability scale.

Field	df	T-test value	t^2	η^2
F1	22	15.536	1009.33	0.9
F2	**22**	22.83	521.20	0.9
F3	**22**	34.02	**1157.36**	0.9
F4	**22**	24.24	587.57	0.9
Total	**22**	35.59	1266.64	0.9

4. Discussions

This study was conducted to determine the effect of employing ChatGPT in enhancing searchability among female researchers.

Study results showed that there is a positive effect on raising searchability among female researchers in the pre-post group after using ChatGPT.

The researchers believe this is due to: increased interaction with ChatGPT, a sense of freedom while using it, and a reduction in the time and effort that previously required spending long hours navigating online links. ChatGPT's ability to understand natural language contexts (a pre-trained generative transformer) broke the barrier between it and the researchers, allowing researchers to receive immediate and rapid responses to all their research inquiries. All of these reasons are due to the researchers holding a workshop before starting their research assign-

ments. The workshop included 23 students, including all students enrolled in a research seminar course in the master's program in Curriculum and Instruction at the Faculty of Education at the Islamic University of Gaza, where the research was conducted during the second semester of the 2022-2023 academic year. The researchers provided them with a mechanism for understanding ChatGPT, the correct way to use it to its fullest potential, and how to adhere to research ethics while using it. The training lasted approximately two weeks online and included 10 research assignments using ChatGPT, presented in no more than five lines, and two questions for their study. Write one hypothesis for your study, two important points, two points from your study objectives, and write a definition for each of your study variables. ChatGPT was asked about the methodology, design, tools, statistical methods, and some Arabic and foreign references appropriate for your study. All of these tasks were submitted via Google Form and evaluated by the researchers. This resulted in the following results: ChatGPT achieved an acceptance rate for its use in research among female research students exceeding 80%. Statistically significant differences were found between students' scores on the research employability scale before and after implementation, in favor of the post-implementation in all areas of the scale, and in the scale as a whole. The effect size value in all areas of the employability scale, and in the scale as a whole, was greater than 0.9 for the researchers.

The results of the study agree with the study (Gonzales et al., 2025) entitled "Evaluation of the Impact of ChatGPT on the Development of Research Skills in Higher Education" The results of their study supported the integration of ChatGPT into higher education and considered it a strategic tool that enhances research skills, especially in environments with limited academic resources I also agreed with the study (Jaber et al., 2025) Knowledge, attitude, and perceptions of MENA researchers towards the use of ChatGPT in research: A cross-sectional study. In (Kasneci et al., 2023) study entitled "ChatGPT for good? On opportunities and challenges of large language models for education" and the good understanding of the yield according to the study (Lecler, Duron, & Soyer, 2023; Wang, Miao, Li, Wang, & Lin, 2023) and its ability for self-improvement by enhancing human responses (Mann, 2023) and the response of ChatGPT is very fast, and this is what reinforced the results of the research, according to a study (Kumar, 2023) titled "Analysis of ChatGPT Tool to Assess the Potential of its Utility for Academic Writing in Biomedical Domain" come out a text consisting of 300 - 500 words from one minute to two minutes without resorting to several links to information according to the old methods of research, and study (Rahman & Watanobe, 2023), which is entitled "ChatGPT for Education and Research: Opportunities, Threats, and Strategies", where they experimented with ChatGPT in solving technical problems in engineering, programming, languages, and literature, and it proved its efficiency efficiently.

Lund & Wang (2023), studied "Chatting about ChatGPT: How may AI and GPT impact academia and libraries?" The research proved that it can be used ef-

fectively in academic circles in creating sensitive data related to personal, financial, and medical data, and for libraries, it has proven its effectiveness in creating indexing, metadata, and content creation.

Firat (2023) titled "How ChatGPT Can Transform Autodidactic Experiences and Open Education?" showed how ChatGPT improved the individuality and interactivity of learners and improved their learning experience so that the service provides them with customized support, feedback, and guidance in real time, increased accessibility, provided comfortable and flexible learning, enhanced the use of open educational resources, and assisted in self-assessment.

Despite the positive results of this study, one of its most significant limitations is the small sample size, limited to only 23 participants. Additionally, the participants were not randomly selected, which could bias the results in favor of certain characteristics of the participants. The absence of a control group also prevented a direct comparison to measure the impact of the intervention compared to its absence. This was due to the small number of students enrolled in this phase, as the study included all female students enrolled during the study period. This may limit the ability to determine whether the positive results were due solely to the use of ChatGPT or to other factors. These limitations impose restrictions on the generalizability of the study's results to all groups of researchers or academic settings and require caution when applying the study to different contexts.

5. Conclusion

The present study's results show a notable alignment with prior research findings, reflecting a consistent scholarly trend that underscores the value of integrating artificial intelligence technologies into academic research domains. The advent of ChatGPT marks a pivotal advancement in the evolution of AI tools, moving beyond its traditional role of answering questions or generating text to becoming a versatile platform that supports researchers in data analysis, idea generation, and knowledge organization throughout various research stages. This study sought to explore the influence of employing ChatGPT on enhancing the research competence of a group of female researchers by improving their ability to access, analyze, and effectively utilize information to produce reliable scholarly content. The significance of this work lies in its focus on a modern, rapidly developing tool and its examination of optimal ways to harness it, thereby contributing to the development of future strategies for effectively integrating such technologies into academic research and educational contexts.

The study recommends integrating ChatGPT into research methods courses by providing training modules on prompt engineering, developing skills to critically analyze AI outputs, and establishing clear ethical guidelines for responsible use.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Adewale, S. (2025). Exploring ChatGPT Usage Amongst Female Academics and Researchers in the Academia. *The International Journal of Information and Learning Technology, 42,* 49-66. https://doi.org/10.1108/ijilt-01-2024-0012

Alemrany, M. H., Asqule, M. A., & Aqel, M. S. (2023). *The Effectiveness of an Educational Environment Based on STEM Approach for Developing Robot Programming Skills among Sixth-Grade Students in Gaza and Their Acceptance of Technology.* Unpublished Doctoral Dissertation, Islamic University of Gaza.

Baidoo-Anu, D., & Owusu Ansah, L. (2023). Education in the Era of Generative Artificial Intelligence (AI): Understanding the Potential Benefits of ChatGPT in Promoting Teaching and Learning. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4337484

ChatGPT (2023). [Personal Communication].

ChatGPT3.5 (2023). [Personal Communication].

Chen, T. (2023). Chatgpt and Other Artificial Intelligence Applications Speed up Scientific Writing. *Journal of the Chinese Medical Association, 86,* 351-353. https://doi.org/10.1097/jcma.0000000000000900

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly, 13,* 319-340. https://doi.org/10.2307/249008

Farrokhnia, M., Banihashem, S. K., Noroozi, O., & Wals, A. (2023). A SWOT Analysis of ChatGPT: Implications for Educational Practice and Research. *Innovations in Education and Teaching International, 61,* 460-474. https://doi.org/10.1080/14703297.2023.2195846

Firat, M. (2023). *How ChatGPT Can Transform Autodidactic Experiences and Open Education*. Department of Distance Education, Open Education Faculty, Anadolu University.

Gonzales, J. D. R., Reyna, J. T., Amaya, E. A. V., & Luján, I. G. V. (2025). Evaluation of the Impact of ChatGPT on the Development of Research Skills in Higher Education. *International Journal of Learning, Teaching and Educational Research, 24,* 370-390. https://doi.org/10.26803/ijlter.24.4.18

Gupta, P., Raturi, S., & Venkateswarlu, P. (2023). *ChatGPT for Designing Course Outlines: A Boon or Bane to Modern Technology*. https://ssrn.com/abstract=4386113 http://dx.doi.org/10.2139/ssrn.4386113

Haleem, A., Javaid, M., & Singh, R. P. (2022). An Era of ChatGPT as a Significant Futuristic Support Tool: A Study on Features, Abilities, and Challenges. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations, 2,* Article 100089. https://doi.org/10.1016/j.tbench.2023.100089

Jaber, S. A., Hasan, H. E., Alzoubi, K. H., & Khabour, O. F. (2025). Knowledge, Attitude, and Perceptions of MENA Researchers Towards the Use of ChatGPT in Research: A Cross-Sectional Study. *Heliyon, 11,* e41331. https://doi.org/10.1016/j.heliyon.2024.e41331

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F. et al. (2023). ChatGPT for Good? On Opportunities and Challenges of Large Language Models for Education. *Learning and Individual Differences, 103,* Article 102274. https://doi.org/10.1016/j.lindif.2023.102274

Kumar, A. H. (2023). Analysis of ChatGPT Tool to Assess the Potential of Its Utility for Academic Writing in Biomedical Domain. *Biology, Engineering, Medicine and Science Reports, 9,* 24-30. https://doi.org/10.5530/bems.9.1.5

Lecler, A., Duron, L., & Soyer, P. (2023). Revolutionizing Radiology with GPT-Based Models:

Current Applications, Future Possibilities and Limitations of ChatGPT. *Diagnostic and Interventional Imaging, 104,* 269-274. https://doi.org/10.1016/j.diii.2023.02.003

Lo, C. K. (2023). What Is the Impact of ChatGPT on Education? A Rapid Review of the Literature. *Education Sciences, 13,* Article 410. https://doi.org/10.3390/educsci13040410

Lund, B. D., & Wang, T. (2023). Chatting about ChatGPT: How May AI and GPT Impact Academia and Libraries? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4333415

Mahdi, H. R. (2014). The Effectiveness of Mobile Learning SMS Service on Enhancing Mobile Learning Acceptance among the College of Education Students at Al-Aqsa University. *International Journal of Learning Management Systems, 2,* 45-69. https://doi.org/10.12785/ijlms/020104

Mann, D. L. (2023). Artificial Intelligence Discusses the Role of Artificial Intelligence in Translational Medicine. *JACC: Basic to Translational Science, 8,* 221-223. https://doi.org/10.1016/j.jacbts.2023.01.001

Mhlanga, D. (2023). Open AI in Education, the Responsible and Ethical Use of ChatGPT towards Lifelong Learning. In *Sustainable Development Goals Series* (pp. 387-409). Springer. https://doi.org/10.1007/978-3-031-37776-1_17

Owda, M. F. A. (2020). Augmented Reality Technology, and It's Effect in Improving the Acceptance to Use It among 7th Graders in Medical Technology Unit. *Creative Education, 11,* 2855-2866. https://doi.org/10.4236/ce.2020.1112211

Rahman, M. M., & Watanobe, Y. (2023). Chatgpt for Education and Research: Opportunities, Threats, and Strategies. *Applied Sciences, 13,* Article 5783. https://doi.org/10.3390/app13095783

Rudolph, J., Tan, S., & Tan, S. (2023). ChatGPT: Bullshit Spewer or the End of Traditional Assessments in Higher Education? *Journal of Applied Learning and Teaching, 6,* 342-363.

Sallam, M. (2023). *The Utility of ChatGPT as an Example of Large Language Models in Healthcare Education, Research and Practice: Systematic Review on the Future Perspectives and Potential Limitations*. https://doi.org/10.1101/2023.02.19.23286155

Wang, F. Y., Miao, Q., Li, X., Wang, X., & Lin, Y. (2023). What Does ChatGPT Say: The DAO from Algorithmic Intelligence to Linguistic Intelligence. *IEEE/CAA Journal of Automatica Sinica, 10,* 575-579. https://doi.org/10.1109/jas.2023.123486

Xia, Q., Chiu, T. K., Zhou, X., Chai, C. S., & Cheng, M. (2022). Systematic Literature Review on Opportunities, Challenges, and Future Research Recommendations of Artificial İntelligence in Education. *Computers and Education: Artificial Intelligence, 4,* Article 100118. https://doi.org/10.1016/j.caeai.2022.100118

Zhai, X. (2022). ChatGPT User Experience: Implications for Education. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4312418