Rima International Journal of Education (RIJE)
ISSN: 2756 – 6749 (p); 3141-2033 (e)
Volume 5, Issue 4, June. 2026; Page: 155—169 DOI: https://doi.org/10.65760/rijessu.v5.4.11

Accessibility and Utilization of ChatGPT and Meta AI in Education: Opportunities and Challenges among Undergraduate Science Education Students at Sokoto State University, Sokoto

Bilal Abdullahi Usman

Department of Science Education, Faculty of Education, Sokoto State, Nigeria.

Abstract

This study investigated the Accessibility and Utilization of ChatGPT and Meta AI in Education: Opportunities and Challenges Among Undergraduate Science Education Students at Sokoto State University, Sokoto Nigeria. The study was guided by three research objectives corresponded with three research questions on Accessibility and Utilization of ChatGPT and Meta AI in Education. A descriptive survey research design was adopted. The population of the study comprised 125 first year undergraduate Science Education students of Sokoto State University. Using Research Advisors' sample size table, a sample size of 95 respondents was selected, a simple random sampling technique was used to ensure fair representation of students. Data were collected using a structured questionnaire titled Accessibility and Utilization of ChatGPT and Meta AI Questionnaire (AUCMAIQ). The instrument was validated by experts from department of science education Sokoto State University, a reliability coefficient of 0.82 was obtained using Cronbach Alpha. Data were collected and analyzed using mean and standard deviation to answer research questions. The study found that students had access to ChatGPT and Meta AI and utilized them mainly for assignments, research, note summarization, and visualize abstract concepts. It was also revealed that ChatGPT and Meta AI enhanced learning efficiency and science literacy, while major challenges included poor internet access, high data cost, inaccurate responses, and overdependence on ChatGPT and Meta AI generated information. The study recommended improved digital infrastructure and responsible ChatGPT and Meta AI usage training in universities.

Keywords: Accessibility, Utilization, Science Literacy, ChatGPT, Meta AI

Cite this as: Usman, B. A. (2026). Accessibility and Utilization of ChatGPT and Meta AI in Education: Opportunities and Challenges among Undergraduate Science Education Students at Sokoto State University, Sokoto. *Rima International Journal of Education, 5*(4), 155—169. DOI: https://doi.org/10.65760/rijessu.v5.4.11

Introduction

Science education remains one of the most important components of national development because it prepares learners with the knowledge, skills, and attitudes needed to understand the natural world and solve practical problems (Osman, 2017). Through science education, societies develop human capacity in medicine, engineering, agriculture, technology, and environmental management (Kyle Jr 2020). Central to this purpose is the concept of science literacy, which refers to the ability of individuals to understand scientific ideas, interpret evidence, think critically, and apply scientific knowledge in everyday decision making. In the modern era, science literacy goes beyond memorizing facts to include inquiry skills, digital competence, data interpretation, and responsible use of technology. For undergraduate science education students, science literacy is especially significant because they are future science teachers who will influence learners' scientific understanding and attitudes in schools. Therefore, tertiary institution are expected to prepare students with both scientific competence and the technological skills required in contemporary classrooms.

The growing influence of digital technologies in higher education has changed how students learn, communicate, and access academic resources (Alenezi, & Akour, 2023).. Among the most recent innovations is Artificial Intelligence (AI), particularly generative AI systems capable of producing text, explanations, summaries, and interactive responses. UNESCO has emphasized that AI is increasingly transforming educational systems globally and raising important questions about pedagogy, governance, ethics, and equity in learning environments. As educational institutions seek more flexible and personalized learning models, AI tools are becoming more relevant in teaching and learning processes (Kovalchuk *et al.,* 2025). This global shift has made the study of AI accessibility and utilization highly important, especially in developing countries where educational technology adoption may face infrastructural limitations. (UNESCO)

Among the leading generative AI tools currently used by students are ChatGPT and Meta AI. ChatGPT, developed by OpenAI, is widely known for its conversational ability to answer questions, generate ideas, solve problems, and support academic writing. Meta AI, developed by Meta Platforms, is integrated into popular applications such as WhatsApp, Facebook, Instagram,

and Messenger, thereby making it potentially easier for many students to access through familiar social platforms. The popularity of these tools has increased because they provide instant responses, user friendly interaction, and support. Their growing presence suggests that tertiary institutions students now have new opportunities to engage with learning materials outside traditional lecture settings.

In science education, the relevance of ChatGPT and Meta AI is particularly notable. Science based courses often involve abstract theories, calculations, practical procedures, and technical terminologies that many students find challenging. ChatGPT and Meta can assist by simplifying difficult concepts, generating examples, providing step by step explanations. For instance, students studying biology, chemistry, physics, or mathematics may use ChatGPT and Meta AI to clarify concepts, practice problem solving, or prepare lesson notes. Studies on higher education students indicate that many learners perceive ChatGPT and Meta AI as useful for productivity, independent study, and improved academic efficiency when properly guided.

Beyond personal learning, undergraduate science education students also require exposure to modern instructional technologies because they are future classroom teachers (Yılmaz, 2023). As teacher trainees, they need competence in digital pedagogy, lesson planning, classroom innovation, and learner centered instruction. ChatGPT can help generate lesson objectives, teaching strategies, assessment questions, and classroom examples, while Meta AI may support collaborative communication and peer discussions through messaging platforms Khalida, & Mahmoud 2025). Consequently, access to ChatGPT and Meta AI is no longer only a matter of convenience but also an issue of professional preparation.

Despite these opportunities, access to ChatGPT and Meta AI is not equal among all students, barriers such as poor internet connectivity, high data costs, unstable electricity supply, lack of digital devices, and low awareness may limit effective use of ChatGPT and Meta AI (Ali, & Ahmad, 2026). Students in the university may depend mainly on smartphones with limited subscriptions, making prolonged academic use difficult. UNESCO has repeatedly highlighted the need for equitable and human centered digital transformation so that technological innovation does not widen educational inequality. Therefore, while some students benefit greatly from ChatGPT and

Meta AI, others may be excluded due to socioeconomic or infrastructural disadvantages. (UNESCO)

In addition to accessibility issues, the utilization of ChatGPT and Meta AI raises academic and ethical concerns, challenges such as plagiarism, overdependence on ChatGPT and Meta AI, misinformation, weak critical thinking, and inaccurate scientific explanations (Mohammad, & Jamil, 2025). If students rely excessively on ChatGPT and Meta AI generated answers without verification, they may develop shallow understanding or misconceptions, especially in science related disciplines where precision is essential (Elsayed, 2024). Many universities are therefore developing policies and guidelines to regulate acceptable use of AI generative information in teaching and assessment. Furthermore, students' willingness to use ChatGPT and Meta AI is often influenced by digital literacy, trust, awareness, perceived usefulness, and institutional support. Where universities provide training, policies, and reliable internet services, students are more likely to use ChatGPT and Meta AI productively and responsibly. However, where such support systems are weak, students may either under utilize the tools or misuse them.

However, the present study accessibility and utilization of ChatGPT and Meta AI among undergraduate science education students at Sokoto State University will reveal the students' access to these technologies, the purposes for which they are used, the opportunities they create for science literacy and academic improvement, and the challenges hindering effective adoption. Findings will provide insight to the students, lecturers, and university management in promoting responsible ChatGPT and Meta AI integration and improving the quality of science teacher education in the institution.

Concept of Artificial Intelligence (AI)

Artificial intelligence (AI) refers to the capability of computational systems to perform tasks typically associated with human intelligence, such as learning, reasoning, problem solving, perception, and decision making. It is a field of research in computer science that develops and studies methods and software that enable machines to perceive their environment and use learning and intelligence to take actions that maximize their chances of achieving defined goals (Russell, 2021***).***

Concept of ChatGPT in Education

ChatGPT is a generative artificial intelligence chatbot developed by OpenAI. It is designed to understand prompts and generate human like responses in conversational form. ChatGPT can answer questions, summarize texts, explain concepts, generate essays, solve problems, and assist with academic tasks.

In education, ChatGPT is used by students for assignments, note summarization, research support, language improvement, and clarification of difficult concepts. Lecturers may also use it to prepare lesson notes, generate quizzes, and design learning activities (Kasneci *et al.*, 2024) observed that ChatGPT has the potential to improve learning efficiency, promote self-directed learning, and enhance student engagement when used responsibly.

Concept of Meta AI in Education

Meta AI is a branch of artificial intelligence focused on improving the ability of AI systems to learn and adapt to new tasks quickly with minimal additional data. It emphasizes the development of models that can generalize from past experiences to efficiently handle new, unseen tasks. (Zhai, 2021; Hariri, 2023). Meta AI is an artificial intelligence assistant developed by Meta Platforms. It is integrated into social media and messaging platforms such as WhatsApp, Facebook, Instagram, and Messenger.

Meta AI enables users to ask questions, generate text, obtain information, brainstorm ideas, and perform learning-related tasks directly within communication applications. Because many students already use these platforms regularly, Meta AI offers convenient access to educational support. Its integration into common digital platforms may encourage informal learning, collaborative learning, and immediate academic assistance among students.

Accessibility of ChatGPT and Meta AI among Students

Accessibility refers to the extent to which students can obtain and use ChatGPT and Meta AI through devices, internet connectivity, and digital skills. Students with smartphones, laptops, stable internet connection, and adequate digital literacy are more likely to access ChatGPT and Meta AI effectively. However, students in Sokoto State University may face barriers such as poor network service, high cost of data, and inadequate awareness.

UNESCO (2024) emphasized that technological innovation in education must address issues of equity and inclusion so that all learners can benefit.

Utilization of ChatGPT and Meta AI in Education

Utilization refers to the extent to which students use ChatGPT and Meta AI for academic purposes. Students may use these tools to conduct research, summarize lecture notes, solve assignments, understand difficult concepts, improve grammar and writing.

Opportunities of ChatGPT and Meta AI in Education

The use of ChatGPT and Meta AI provides several educational opportunities, including instant access to information, personalized learning support, improved understanding of concepts, enhanced research and writing, time saving, and digital skills development

Challenges of ChatGPT and Meta AI in Education

Despite their benefits, ChatGPT and Meta AI also present several challenges which include inaccurate information, overdependence, plagiarism and academic misconduct, poor internet connectivity, high cost of data subscription, lack of institutional guidelines.

Technology Acceptance Model (TAM)

The present study is anchored on the Technology Acceptance Model (TAM) developed by Davis (1989)**.** TAM explains how individuals come to accept and use a new technology based on two major constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)**.** Perceived usefulness refers to the degree to which a person believes that using a particular technology will improve performance, while perceived ease of use refers to the degree to which a person believes that the technology will be free from effort. The model further explains that when users perceive a technology as useful and easy to use, they are more likely to develop positive attitudes toward it, leading to actual adoption and continuous usage. TAM has been widely applied in studies relating to technology adoption in education, e-learning, mobile learning, and digital innovation.

Review of Empirical Studies

Ezurike and Akinsulire (2024) conducted a study titled Investigating the Awareness and Adoption of ChatGPT as a Learning Tool among Undergraduates in Lagos State, Nigeria. The population of the study consisted of undergraduate students in selected tertiary institutions in Lagos State. A descriptive survey research design was adopted, and data were collected through structured questionnaires. The data were analyzed using descriptive statistics. The findings showed that many students were aware of ChatGPT and had adopted it for assignments, research, and academic support. However, issues such as internet cost, limited digital literacy, and concerns about misuse were identified as barriers to effective utilization.

Islam (2024) carried out a study titled Exploring the Opportunities and Challenges of ChatGPT in Academia. The study reviewed the experiences of students, lecturers, and researchers in higher institutions. The researchers used a systematic review method by analyzing previously published academic studies on ChatGPT in education. The results showed that ChatGPT offers opportunities such as personalized learning, academic writing assistance, and research support. However, challenges identified included misinformation, plagiarism, ethical concerns, and overdependence on AI-generated responses.

Statement of the Problem

The rapid advancement of Artificial Intelligence (AI) has introduced new digital tools such as ChatGPT and Meta AI into the educational sector. These tools have the potential to improve teaching and learning by providing instant access to information, supporting research activities, simplifying difficult concepts, and enhancing students' independent learning. For science education students, who often deal with abstract scientific principles, calculations, and practical procedures, ChatGPT and Meta AI may serve as valuable learning companions and academic support systems.

Despite these benefits, the accessibility and utilization of ChatGPT and Meta AI among science education undergraduate students in Sokoto State University remain uncertain. Some students may lack adequate internet connectivity, digital devices, stable electricity supply, or the technical skills required to use these technologies effectively. Others may have access but may not utilize the tools for meaningful academic purposes. In addition,

concerns such as misinformation, overdependence on ChatGPT and Meta AI generated responses, plagiarism, and lack of institutional guidelines may limit their educational value.

At Sokoto State University, the present study may bridge the gap on access to ChatGPT and Meta AI, how frequently they use them, the benefits they derive, and the challenges they encounter. This will provide insight on appropriate strategies for integrating ChatGPT and Meta AI into teaching and learning.

Objectives of the Study

The objective of this study is to investigate the accessibility and utilization of ChatGPT and Meta AI in education opportunities and challenges among undergraduate science education students at Sokoto State University. The objectives are to:

I. Determine the extent to which ChatGPT and Meta AI are accessible to undergraduate science education students at Sokoto State University.

II. Examine the extent of utilization of ChatGPT and Meta AI for academic purposes among undergraduate science education students at Sokoto State University.

III. Determine the opportunities associated with the use of ChatGPT and Meta AI among undergraduate science education students at Sokoto State University

IV. Determine the Challenges associated with the use of ChatGPT and Meta AI among undergraduate science education students at Sokoto State University

Research Questions

The following research questions guided the study:

I. To what extent are ChatGPT and Meta AI accessible to undergraduate science education students at Sokoto State University?

II. To what extent are ChatGPT and Meta AI utilized for academic purposes among undergraduate science education students at Sokoto State University?

III. What are the opportunities associated with the use of ChatGPT and Meta AI among undergraduate science education students at Sokoto State University?

IV. What are the challenges associated with the use of ChatGPT and Meta AI among undergraduate science education students at Sokoto State University?

Methodology

This section contained the research methodology employed to investigate the accessibility and utilization of ChatGPT and Meta AI in education, opportunities and challenges experienced by Undergraduate Science Education Students at Sokoto State University. For this study descriptive survey research design was used. The population of the study comprise of 125 100level undergraduate science education students at Sokoto State University in 2025/2026 academic session out of which 95 students were sampled using simple random sampling technique. The instrument used was Accessibility and Utilization of ChatGPT and Meta AI Questionnaire (AUCMAIQ) which was designed to evaluate students' accessibility and utilization of ChatGPT and Meta AI. The questionnaire includes twenty items (20) extracted from accessibility, utilization, opportunities, and challenges of ChatGPT and Meta AI in education on 4-likert scale. The questionnaire was validated by three experts in the department of science education, and it was piloted before the main study. The result of the pilot study was used to calculate the reliability of the instrument using Cronbach Alpha reliability method after which the reliability coefficient was found to be 0.82. The data collected was analyzed using Mean score and Standard deviation to answer the research questions.

Results

Data collected was analyzed based on the research questions.

Table 1: Mean and Standard Deviation on Accessibility of ChatGPT and Meta AI

S/N	Items	Mean	Std. Dev.	Decision
1	I have access to a smartphone, laptop, or device that enables me to use ChatGPT and Meta AI.	3.29	0.89	High Extent
2	I have regular internet connection to access ChatGPT and Meta AI when needed.	3.23	0.91	High Extent
3	I can easily log in and navigate ChatGPT and	3.20	0.93	High Extent

	Meta AI platforms.			
4	I can access ChatGPT and Meta AI whenever I need them for academic purposes.	3.25	0.90	High Extent
5	I have the digital skills required to access and use ChatGPT and Meta AI effectively.	3.25	0.88	High Extent
	Grand Mean	3.24	0.90	High Extent

The table shows that all items have mean scores above the cut-off point of 2.50, indicating a high extent of accessibility of ChatGPT and Meta AI among undergraduate science education students. The grand mean score of 3.24 further confirms the high level of accessibility, while the standard deviation values indicate that the responses are relatively consistent.

Table 2: Mean and Standard Deviation on Utilization of ChatGPT and Meta AI for Academic Purposes

S/N	Items	Mean	Std. Dev.	Decision
1	I use ChatGPT and Meta AI to complete assignments.	3.31	0.87	High Extent
2	I use ChatGPT and Meta AI to understand difficult concepts.	3.28	0.89	High Extent
3	I use ChatGPT and Meta AI for research and academic writing.	3.26	0.91	High Extent
4	I use ChatGPT and Meta AI to prepare for tests and examinations.	3.22	0.92	High Extent
5	I use ChatGPT and Meta AI to improve my academic performance.	3.27	0.88	High Extent
	Grand Mean	3.27	0.89	High Extent

The table shows that all items have mean scores above the cut-off point of 2.50, indicating a high extent of utilization of ChatGPT and Meta AI for academic purposes among undergraduate science education students. The grand mean score of 3.27 further confirms the high level of utilization, while the standard deviation values indicate that the responses are relatively consistent.

Table 3: Mean and Standard Deviation on the Opportunities Associated with the Use of ChatGPT and Meta AI

S/N	Items	Mean	Std. Dev.	Decision
1	ChatGPT and Meta AI help me learn at my own pace.	3.38	0.82	High Extent
2	ChatGPT and Meta AI improve my understanding of science-related topics.	3.42	0.80	High Extent
3	ChatGPT and Meta AI save time when searching for academic information.	3.45	0.78	High Extent
4	ChatGPT and Meta AI improve my academic writing and communication skills.	3.36	0.83	High Extent
5	ChatGPT and Meta AI increase my interest in	3.40	0.81	High Extent

	using technology for learning.			
	Grand Mean	3.40	0.81	High Extent

The table shows that all items on the opportunities associated with ChatGPT and Meta AI recorded mean scores above 2.50, indicating a high extent. The grand mean of 3.40 further confirms that students perceive strong academic opportunities from the use of ChatGPT and Meta AI. The low standard deviation values suggest consistency in responses among respondents.

Table 4: Mean and Standard Deviation on the Challenges Associated with the Use of ChatGPT and Meta AI

S/N	Items	Mean	Std. Dev.	Decision
1	Poor internet connection limits my use of ChatGPT and Meta AI.	3.30	0.88	High Extent
2	High cost of data subscription affects my access to ChatGPT and Meta AI.	3.35	0.86	High Extent
3	ChatGPT and Meta AI sometimes provide inaccurate information.	3.25	0.90	High Extent
4	Excessive use of ChatGPT and Meta AI can reduce independent thinking.	3.28	0.87	High Extent
5	Lack of proper guidance affects effective use of ChatGPT and Meta AI for learning.	3.32	0.85	High Extent
	Grand Mean	3.30	0.87	High Extent

The table reveals that all items on challenges recorded mean scores above 2.50, indicating a high extent of challenges faced by students in the use of ChatGPT and Meta AI. The grand mean of 3.30 shows that despite the benefits, students still experience notable challenges. The standard deviation values indicate close response patterns among respondents.

Discussions

Firstly, is to identify the extent to which ChatGPT and Meta AI are accessible to undergraduate science education students at Sokoto State University. The findings revealed that undergraduate science education students at Sokoto State University have a high level of accessibility to ChatGPT and Meta AI, as indicated by the grand mean of 3.24. This suggests that most students possess the required devices, internet access, and digital skills needed to use these tools effectively. This aligns with the position of Kasneci (2023), who noted that the increasing availability of generative AI tools has significantly improved students' access to academic support systems. Similarly, Dwivedi (2023) emphasized that the widespread adoption of AI technologies in

education is largely driven by improved digital infrastructure and smartphone penetration among students.

Secondly is to examine the extent of utilization of ChatGPT and Meta AI for academic purposes among undergraduate science education students at Sokoto State University. The study also found that ChatGPT and Meta AI are highly utilized for academic purposes, with a grand mean of 3.27. This indicates that students frequently use these tools for assignments, understanding complex concepts, research, and academic writing. This finding is supported by Kasneci (2023), who reported that students increasingly rely on ChatGPT like tools for explanation, idea generation, and academic assistance. In addition, UNESCO (2023) observed that generative AI systems are becoming common learning companions that enhance productivity and support personalized learning among higher education students.

Thirdly is to identify the opportunities and challenges associated with the use of ChatGPT and Meta AI among undergraduate science education students at Sokoto State University. The results further showed that both opportunities (grand mean = 3.40) and challenges (grand mean = 3.30) of ChatGPT and Meta AI are highly experienced among students. The findings suggest that while these tools provide benefits such as improved learning speed, understanding, and academic writing support, they also present challenges including misinformation, overdependence, and connectivity issues. This is consistent with Dwivedi (2023), who highlighted that generative AI tools offer significant educational advantages but also raise concerns about accuracy and dependency. Similarly, UNESCO (2023) cautioned that while AI enhances learning opportunities, it must be used responsibly to avoid undermining critical thinking and academic integrity.

Summary of the Major Findings

I. There is high level of accessibility of ChatGPT and Meta AI among undergraduate science education students at Sokoto State University.

II. The ChatGPT and Meta AI are highly utilized for academic purposes among undergraduate science education students at Sokoto State University.

III. The opportunities and challenges associated with the accessibility and utilization of ChatGPT and Meta AI are highly experienced among undergraduate science education students at Sokoto State University.

Conclusion

Based on the findings, it can be concluded that ChatGPT and Meta AI play a significant role in enhancing academic activities among undergraduate science education students. While the tools are highly accessible and can be utilize for learning purposes, they also present certain challenges that may limit their effectiveness if not properly managed.

Recommendations

Based on the findings of the study, the following recommendations were made:

I. Students should be encouraged to make effective and responsible use of ChatGPT and Meta AI to enhance their academic performance while avoiding overdependence on them.

II. The university management should improve digital infrastructure, especially stable internet access, to support the effective use of AI tools for academic purposes.

III. Tutors should guide students on the appropriate use of AI tools in academic work to reduce misuse and improve academic integrity.

IV. Workshops and training programmes should be organized to improve students' digital literacy and enhance their ability to critically evaluate information generated by AI tools.

V. Internet service providers should consider reducing data costs for students to make access to AI tools more affordable and sustainable for academic use.

Reference

Alenezi, & Akour, (2023). The need of integrating digital education in higher education: Challenges and opportunities. *Sustainability*, *15*(6), 4782.

Ali, & Ahmad, (2026). Implementation Barriers and Affordances of ChatGPT Adoption Among Primary Teachers in Rural Versus Urban Public Government Schools in Pakistan. *Social Science Review Archives*, *4*(1), 537-552.

Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., Baabdullah, A. M., Koohang, A., Raghavan, V., & Ahuja, M. (2023). So what if ChatGPT wrote it? Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management, 71*, 102642. https://doi.org/10.1016/j.ijinfomgt.2023.102642

Elsayed, H. (2024). The impact of hallucinated information in large language models on student learning outcomes: A critical examination of misinformation risks in AI-assisted education. *Northern Reviews on Algorithmic Research, Theoretical Computation, and Complexity*, *9*(8), 11-23.

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Geyer, T., Kasneci, G., & Krusche, S. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences, 103*, 102274. https://doi.org/10.1016/j.lindif.2023.102274

Khalida, M., & MAHMOUD, Z. (2025). *Exploring Teachers' Insights about the Implementation of ChatGPT as an Assistant Tool in Lesson Planning* (Doctoral dissertation, Abdelhafid boussouf university Centre mila).

Kovalchuk, Reva, Volch, Shcherbyna, & Lychova, (2025, June). Artificial intelligence as an effective tool for personalized learning in modern education. In *Environment. Technology. Resources. Proceedings of the International Scientific and Practical Conference* (Vol. 3, pp. 187-194).

Kyle Jr (2020). Expanding our views of science education to address sustainable development, empowerment, and social transformation. *Disciplinary and Interdisciplinary Science Education Research*, *2*(1), 2.

Osman, (2017). Contextual learning: Innovative approach towards the development of students' scientific attitude and natural science performance. *Eurasia Journal of mathematics, science and technology education*, *14*(1), 61-76.

Sarkam, N. A., Mohammad, N. H., Jamil, N. I., Razi, N. F. M., & Ahmad, S. (2025, September). Analyzing the Impact of ChatGPT on Student Over-Reliance and Plagiarism using Artificial Neural Network

(ANN). In *2025 6th International Conference on Artificial Intelligence and Data Sciences (AiDAS)* (pp. 552-558). IEEE.

UNESCO. (2023). *Guidance for generative AI in education and research*. United Nations Educational, Scientific and Cultural Organization. https://www.unesco.org

Yılmaz, Ö. (2023). The role of technology in modern science education. *Current research in education*, *6*, 35-60.