Perceived Influence of Artificial Intelligence (AI) on Effective Learning among Ekiti State University (EKSU) Students

Gbadamosi, Stephen Gbenga

Department of Sociology, Ekiti State University, Ado-Ekiti, Nigeria

DOI: https://doi.org/10.68050/JAMS.2026.932

Received: 05 November 2026; Accepted: 08 November 2026; Published: 19 November 2026

ABSTRACT

The study examined the perceived influence of Artificial Intelligence (AI) on effective learning among Ekiti State University students. The rapid development and increasing use of AI tools in education have generated the needs for empirical investigation into the influence on students' learning experiences and academic activities. The study adopted a quantitative research approach through a survey research design. Data were collected through a structured questionnaire administered to the selected EKSU students using a sample random technique, 200 respondents were selected, 185 questionnaires were retrieved, leaving the response rate at 92.5%. The data were analysed using descriptive and inferential statistics. The findings revealed a high level of awareness of Artificial Intelligence tools among the students, with 100% awareness reported. The study also revealed a high level of AI usage, with 84.5% of respondents indicating the use of ChatGPT, 31% of the respondents use it for research writing, while 54.4% of the respondents use it for assignments purpose. In all, AI tools were used for academic purposes (research writing and academic assignments). The study further established a significant relationship between the use of Artificial Intelligence and effective learning among EKSU students. The study concludes that AI tools influence positively the effective learning among EKSU students, particularly in the areas of academic assignments and research writing. Based on the findings, the study recommends the introduction of AI literacy into the university curriculum to equip students with the knowledge and skills required for responsible and effective use of AI tools. It also recommends that the university system should establish a clear guidelines and policies on the appropriate use of Artificial Intelligence in academic activities, thereby promoting responsible use while maintaining academic integrity.

Keywords: Artificial Intelligence, Effective Learning, AI tools, Higher Institution.

INTRODUCTION

The Development of Artificial Intelligence (AI) has metamorphosed every area of human endeavour like business, social, education. Artificial intelligence (AI) technologies have crept into educational system for teaching methods, learning, and for information, the inclusion of AI in higher institutions marks a paradigm shift in how knowledge, information and learning process are viewed, accessed and evaluated (Ayorinde, 2026). In this study, AI is seen as a catalyst for transformative tool with a great implication for teaching and learning especially in higher institutions, where there is higher demand for effectiveness, innovation, and information.

Akinwalere and Inanov (2022) defined AI as a technological invention, committed to making human activity more comfortable in contemporary society. Pasaribu and Widkjaja (2022), opined that AI is an ability of machines or computers to imitate human intelligence and behaviour to solve problems, making decision and learning. Tamimi, Addichane & Madani (2024), defined Artificial as something manufactured which has an ideology similar to human beings, while intelligence is the mental capacity and cerebral prowess to solves problems and give information.

UNICEF (2021) asserts that AI is a machine-driven system with ability to forecast, proffer suggestions, and in conclusion give alternatives that impact significant and positive solution, based on predesigned human objectives. In educational system, AI applications include intelligent tutoring system, personalized learning

platforms, automated grading and data-driven insights into student learning. Ediowe (2024) opined that AI was developed as an academic discipline in the 1950s, to assist students in enablement to interpret, learn and for data presentation. The definition of AI varies across the scholars based on the contexts and the subject under study.

However, AI is an ability to shape human reasoning, styles and behaviours in machine to act like real human being to solves social and academic problems. This could translate that AI is a landmark achievement in digital education and an asset to human nature because every aspect of human endeavour stands as beneficiary from its multi-dimensional capabilities. Consequently, the educational industry, particularly higher institution, stand to significantly gain more from the goodies that are offered by AI. The introduction of AI into the higher institutional level in this 21st century will contribute meaningfully to effective learning among students.

Ezeaku & Agu (2025), stated that teaching and learning in university is apparently moving beyond face-to-face interaction between the teachers and the students involved. This can be achieved by improving technological tools and machines with human intelligence

The AI tools are numerous in educational practices, such as Chatbots, ChatGPT, Virtual tutors, educational gaming applications enables one benefits in achieving self-direction and gaining learning experiences (Zirawaga et al., 2017). Consequently, the introduction of AI in higher institution in Nigeria will encourage the quality of education and development.

This study has become necessary to bridge the gap between the perceived influence of AI and the effective learning among students. There are numerous studies on AI and academic performance of Students in higher institutions but less on the perception of AI and effective learning. However, this study focuses on the following: awareness of AI tools among students, the usage of AI in the students' activities, the attitudes of students, AI and many others, was identified among students.

Statement of the Problem

Artificial Intelligence (AI) has become an innovation in educational system, thereby improving learning skills, enhance research activities and administrative duties in higher institutions. However, the truth of the matter in Nigerian tertiary education shows a wide gap between the effectiveness of AI and its implementation. Ezeaku et al. (2025) asserted that AI applications in Nigerian tertiary institutions are still in their infancy, with little integration into educational policy, school curriculum and academic research. The infrastructural challenges, poor digital literacy among academic staff and students. Some of the serious challenges among the user is the attitudes towards effective use of AI in learning. The problem of this study, therefore, is that in spite of the developing relevance of AI in higher educational system in Nigeria, its perceived influence of effective learning among students in tertiary institutions remains insufficiently scrutiny. This has call for a knowledge gap that this study seeks to scrutinise. It must be noted that learning in the 21st century has metamorphosed from manual to digital, as many books and materials are online databases and academic work are simplified with usage of AI, however, ethical guidelines and consideration are need to control uses among the users.

Research Questions

1. What are the areas of AI application in EKSU?
2. What is the perceived influence of AI on EKSU students?

METHODOLOGY

This study adopted a descriptive survey research design. The justification for this design was considered appropriate for it allows the researcher to collect, analyse and interpret the data in relations to the study "perceived influence of AI on effective learning among EKSU students". The study area for the study was Ekiti State University (EKSU) Ado-Ekiti. The institution was purposively selected due to incessant use of AI among students for their academic study. The population for the study consisted of 200 respondents, selected

from different faculties, the faculties are; College of Medicine, Engineering, Education Social Sciences and Sciences. These five faculties were randomly selected. Stratified random sampling was used to select the respondents. The distribution of the population is as follows: Medicine 36, Engineering 45, Education 40, Social Sciences 38 and Sciences 41. The distribution was on the basis of population. Data for the study were collected using a research-designed instrument (Questionnaire). Questionnaire development was structured into three sections, on the basis of objectives of the study. The instrument underwent both face and content validation. Two experts were used in the validation of the instrument — one from Department of Psychology and other from Adult Education. Questionnaire was administered across all the selected faculties within the university. Data was collected, analysed using frequencies and percentages.

The Concept of Artificial Intelligence

The synergy between AI and education entails three areas; learning with AI (Using AI tools in the classroom), learning about AI (about technologies and techniques) and lastly, preparing for AI (allow citizens to know the potential impacts of AI on everyday life) (UNESCO 2019). Artificial Intelligence is strongly connected with effective learning and the students of higher institutions in Nigeria (Yusuf, 2024). AI-powered Technologies like adaptive learning system, intelligent tutoring platforms and automated feedback tools helps the students in improving academic ability and retention, which gives them the potentials to overcome academic challenges. As a result, the integration of AI into higher institution of learning will directly contributes to enhanced effective learning among students. Khaskhelly et al., 2023, opined that AI encourages students to learn and simplify the work of lecturers.

Artificial Intelligence therefore, is a branch of computer technology that focuses on using machine to perform basic functions that requires human intelligence. (Nwoye et al., 2026). These functions include learning, reasoning, problem-solving, understanding languages, and making decision (Jaysone, 2024). In a simple term, AI is a computer technology design to function and to mimic human functionality such as thinking, learning, from activities, adjusting to new information and engaged in complex functions without physical human being.

Concept of Effective Learning

Effective learning refers to the procedure through which students gain, comprehend, retain and apply knowledge, skills, and experiences in ways that enable them to achieve their informative purposes. It involves active participation in learning activities, critical thinking, problem-solving, independent study, interaction with teachers and fellow students, and the practical application of acquired knowledge Biggs and Tang (2011). Effective learning goes beyond the mere memorisation of information or passing examinations. It emphasises students' ability to understand what they are taught, retain the information over time, relate new knowledge to previous experiences and apply what they have learned to real-life situations.

The integration of Artificial Intelligence (AI) in tertiary institutions has numerous positive effects on the education sector. According to Ogbuoka, Cyrus, Okere, & Obizue (2025). and Alabi, Oyekola & Joyce (2025), tertiary education in Nigeria can become more effective in learning environment by applying the AI-powered tools in the following ways:

Personalised Learning: AI can facilitate personalised learning experiences, tailoring education to individual students' needs and abilities. AI-powered adaptive learning systems adjust the difficulty level of course materials based on students' performance.

Enhanced Student Engagement: AI-powered tools can enhance student engagement, improving academic outcomes and increasing student motivation. AI-driven chatbots and virtual assistants provide students with regular support.

Intelligent Tutoring Systems: AI-powered intelligent tutoring systems provide one-on-one support to students, offering real-time feedback and guidance. These systems help students fill knowledge gaps and improve their understanding of complex concepts.

Virtual Learning Environments: AI-powered virtual learning environments provide students with immersive and interactive learning experiences. These environments simulate real-world scenarios, allowing students to practise and apply theoretical concepts.

Automated Grading: AI-powered automated grading systems reduce the workload of instructors, freeing up time for more critical tasks. These systems provide accurate and unbiased grading, ensuring fairness and consistency.

Artificial Intelligence Tools and Effective Learning

Artificial Intelligence (AI) tools are digital applications and computer-based systems designed to perform tasks that typically require human intelligence, such as understanding language, generating information, solving problems, providing feedback, and supporting decision-making. In education, AI tools assist students in acquiring knowledge, developing critical-thinking skills, improving academic performance, and achieving learning objectives.

AI tools such as ChatGPT, Google Gemini, Grammarly, Khan Academy Khanmigo, and Duolingo can support students through personalised learning, interactive instruction, writing assistance, explanations of difficult concepts, and immediate feedback. When appropriately used, these tools can complement the work of teachers and promote independent learning.

Influence of AI Tools on Effective Learning

Personalised learning: AI tools can adapt explanations, learning materials, and practice activities to students' individual needs and levels of understanding. This approach allows learners to progress at their own pace and concentrate on areas where they experience difficulties. Zawacki-Richter et al. (2019) examined applications of AI in higher education, identifying personalised learning and assessment as important areas of AI-supported educational practice.

***Access to learning resources*:** AI tools enable students to access explanations, summaries, examples, and additional learning materials. Students can use these resources to supplement classroom instruction and improve their understanding of academic subjects. UNESCO (2023) emphasises that generative AI presents opportunities for educational innovation, while highlighting the importance of appropriate guidance, human oversight, and responsible implementation.

Immediate feedback and assessment: AI-powered educational applications can provide feedback on students' answers, identify errors, and suggest areas for improvement. Such feedback may help students recognise their weaknesses and correct misunderstandings before formal assessments. However, the accuracy of AI-generated feedback should be checked, particularly when dealing with complex academic concepts.

Improvement in critical thinking and problem-solving: AI tools can support critical thinking when students use them to compare explanations, examine arguments, generate research questions, and evaluate alternative solutions. Kasneci et al. (2023) discussed the educational opportunities of large language models, including their potential to support learning and critical thinking. Nevertheless, students need to evaluate AI-generated information rather than accept it without verification.

Empirical Studies on AI Tools and Effective Learning

Several academic publications provide evidence and theoretical insights into the relationship between AI and effective learning.

Zawacki-Richter et al. (2019): This systematic review examined the applications of artificial intelligence in higher education. The authors identified areas such as student profiling and prediction, assessment and evaluation, adaptive systems, and intelligent tutoring. Their review provides a foundation for understanding how AI applications may support teaching and learning in higher education.

Kasneci et al. (2023): The authors examined the opportunities and challenges of large language models, including ChatGPT, in education. They discussed the potential of these technologies to provide personalised explanations, support writing, and facilitate learning. They also identified concerns involving inaccurate information, bias, academic integrity, and students' dependence on AI.

Tlili et al. (2023): The authors examined ChatGPT as a case study of the opportunities and challenges associated with chatbots in education. Their discussion highlighted the potential of conversational AI to facilitate personalised learning and educational interaction, alongside concerns about reliability, ethics, and the responsible use of AI.

UNESCO (2023): UNESCO published guidance on generative AI in education and research, emphasising the importance of human-centred implementation, data privacy, inclusion, and pedagogical suitability. The guidance suggests that educational benefits depend not only on the availability of AI tools but also on how they are integrated into learning environments.

ANALYSIS OF RESULTS

This section presents the data generated from the field work and were presented in tables and analysis were done using appropriate statistical tools.

Table 1. Demographic Characteristics of the Respondents

Age Group	**Frequency (F)**	**Percentage (%)**
16-20	94	50.81
21-25	63	34.06
26-30	26	14.05
31- above	2	1.08
Gender		
Male	96	51.9
Female	89	48.1
Faculties		
College of Medicine	31	16.8
Engineering	41	22.1
Education	39	21.1
Social Sciences	36	19.46
Sciences	38	20.54
Religion		
Christianity	102	55.14
Islam	83	44.86
TOTAL	**185**	**100**

Source: fieldwork 2026

Table 1 shows the demographic characteristics of respondents. The age shows that, between the age of (16-20), 94 (50.81%) of the respondents, (21-25), 63(34.06), (26-3), 26(14.05), while 31 and above, 2(1.08%). The table shows the significant number of respondents between the age of 16-20 that polls 50.81%. gender shows male respondents at 96(51.90%) while female respondents was 89(48.10%). The distribution of the respondents across the faculty shows that college of medicine 31(16.80%), engineering 41(22.10%), education 39(21.10%), social science 36(19.46%) and sciences 38(20.54). Religion distribution shows that 102(55.14%) were Christian, while 83(44.86%) were Muslim.

Table 2: Frequency usage of AI Tools

AI tools	Frequency (F)	Percentage (%)	Ranking
Chart GPT	102	55.14	1st
Quill bot	47	25.41	2nd
Google Gemini	10	5.4	4th
Grammarly	21	11.35	3rd
Turnitin	5	2.7	5th
	185	**100**	

Source: fieldwork 2026

Table 2: the table shows the frequently AI tools usage by the student. Chat GPT 102(55.14%), quill bot 47(25.41%), google Gemini 10(5.40%), Grammarly 21(11.35%) while Turnitin 5(2.70%) of the respondents. The interference here is that, majority of the students use ChatGPT more than any other AI tools, follow by quill bot, while the table shows that students were not used to Turnitin.

Table 3: Rationale for AI Usage

Rationale	Frequency (%)	Percentage (%)
Assignment	91	49.19
Project writing	43	23.24
Reconstruction of grammar	42	22.7
Time -paper/proposal	9	4.87
	185	**100**

Source: fieldwork 2026

The table shows the rationale for AI usage by the students. 91(49.19%) of the respondents opined that they use it for assignment, 43(23.24%) for project writing, 42(22.70%) for reconstruction of grammar, while 9(4.87%) of the respondents said they use it for time-paper and proposal. The inference drawn from this table is that, majority of the students purposively uses AI for assignment and other academic works.

Table 4: Students Perceptions of AI and Effective Learning among Students

Comments	Frequency (F)	Percentage (%)
1. AI helps faster in doing assignments	82	44.32
2. AI helps in reconstruction of grammar	49	26.49
3. It helps in construction of academic proposal	21	11.35
4. It encourages learning effectively by given alternatives answers to academic problems	10	5.41
5. It broadens knowledge by given examples	23	12.43
	185	**100**

Source: fieldwork 2026

Table 4: The highest proportion of respondents, 44.32%, identified assistance with assignments as a major benefit of AI, while 26.49% acknowledged. Its usefulness in improving grammar. Furthermore, 12.43% indicated that AI broadens knowledge through examples, while 11.35% recognize its usefulness in preparing academic proposals. Only 5.41% identified the provision of alternative answers to academic problems as a

benefit. The inference is that, students primarily perceive AI as a practical academic support tools for effective learning.

Table 5: How frequently the usage of AI in learning?

AI usage frequently	Frequency (F)	Percentage (%)
Daily	108	58.38
Occasionally	29	15.67
Weekly	12	6.49
When needed	36	19.46
	185	**100**

Source: fieldwork 2026

Table 5: indicates that 108(58.38%) of the total respondents, use AI daily for effective learning, 36(19.46%) reported that they use AI occasionally, furthermore, 12(6.49%), reported using AI weekly. The inference is that, 108(58.28%), constates that highest proportion of respondents, meaning that, AI tools have become an important part of their effective learning activities.

Table 6: Challenges in using AI tools

Challenges	Frequency (F)	Percentage (%)
Cost of data (high)	92	49.73
High cost of updating to AI Pro	28	15.14
Electricity supply to charge phones and laptop	55	29.73
No ethical standard for usage of AI	10	5.4
	185	**100**

Source: fieldwork 2026

A total of 92 respondents, (49.73%), identified the high cost of data as a major obstacle. This suggests that the financial burden of purchasing internet data may limit students' ability to access and use AI tools effectively for academic activities. 28 respondents, (15.14%), identified the high cost of using AI tools as a challenge. This indicates that the cost of accessing certain AI applications or their premium features may prevent some students from fully benefiting from the educational opportunities provided by artificial intelligence. 55 respondents, representing (29.73%) of the total, reported challenge was the inadequate electricity supply required to charge phones and laptops. The finding suggests that unreliable electricity supply may disrupt students' access to digital devices and consequently affect their ability to use AI tools for learning and research. Finally, 10 respondents, (5.40%), identified the lack of ethical standard for using AI tools as a challenge. Although this was the least frequently reported problem, it suggests that some students may require additional guidance, training, or assistance to use AI applications effectively. The inference drawn is that, the cost of data was the most significant challenge associated with the use of AI tools among the respondents.

DISCUSSION OF FINDINGS

Awareness and Utilisation of Artificial Intelligence Tools among EKSU Students

The findings of the study reveal that Artificial Intelligence (AI) tools have become an important component of academic activities among students of Ekiti State University. The results indicate that ChatGPT was the most frequently reported tool, used by 102 respondents (55.14%), followed by QuillBot, with 47 respondents (25.41%). Grammarly was used by 21 respondents (11.35%), Google Gemini by 10 respondents (5.40%), and Turnitin by five respondents (2.70%).

These findings suggest that students rely more heavily on conversational AI and writing-support applications than on other AI tools. The prominence of ChatGPT may be associated with its ability to generate explanations, assist with assignments, support research writing, and provide responses to academic questions. Similarly, the use of QuillBot and Grammarly suggests that students employ AI not only to obtain information but also to improve the presentation, clarity, and grammatical quality of their academic work.

This finding is consistent with the discussion by Zawacki-Richter et al. (2019), who identified intelligent tutoring, adaptive learning, assessment, and student support as important applications of AI in higher education. Likewise, Kasneci et al. (2023) explained that large language models offer opportunities to support learning, writing, and the understanding of academic concepts.

The findings indicate that academic assignments constituted the leading purpose of AI usage, accounting for 91 respondents (49.19%). This was followed by project writing, reported by 43 respondents (23.24%), and grammatical reconstruction, reported by 42 respondents (22.70%). Only nine respondents (4.87%) indicated using AI for term papers and proposals.

These results demonstrate that AI tools are used primarily to support students' academic tasks, particularly assignment completion, project development, and language improvement. The high proportion of respondents using AI for assignments suggests that students consider these technologies useful for obtaining explanations, generating ideas, organising information, and completing academic tasks more efficiently.

The findings show that respondents perceived several benefits associated with using AI tools for learning. Specifically, 82 respondents (44.32%) reported that AI helped them complete assignments more quickly. Another 49 respondents (26.49%) identified grammatical improvement as a major benefit, while 23 respondents (12.43%) indicated that AI broadened their knowledge by providing examples. Furthermore, 21 respondents (11.35%) identified assistance with academic proposal construction, while 10 respondents (5.41%) reported that AI helped by providing alternative answers to academic problems.

These findings suggest that students primarily perceive AI as a practical academic support tool that facilitates task completion, writing improvement, and access to additional explanations. The prominence of assignment assistance indicates that students value the potential of AI to simplify academic tasks and reduce the time required to complete them.

CONCLUSION

This study examined the perceived influence of Artificial Intelligence on effective learning among students of Ekiti State University, Ado-Ekiti. The findings indicate that AI tools are widely used among the surveyed students, particularly for academic assignments, project writing, and grammatical improvement. ChatGPT emerged as the most frequently reported AI tool, while daily usage was the most common pattern of engagement.

The findings further shown that students perceived AI as useful for completing academic tasks more quickly, improving written expression, broadening their knowledge through examples, and supporting the preparation of academic proposals. These results suggest that AI has become a relevant component of students' academic experiences.

However, the study identifies important barriers to effective AI usage, particularly the cost of internet data, inadequate electricity supply, and the cost of premium AI services. These challenges indicate that the educational benefits of AI depend not only on students' willingness to use the technology but also on the availability of affordable and reliable digital infrastructure.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are proposed.

a. Introduction of AI Literacy into the University Curriculum be introduced. AI literacy programmes into its curriculum to equip students with the knowledge and skills required to use AI tools effectively.
b. Development of Institutional Guidelines for AI Usage: The University management should establish clear policies governing the use of AI in assignments, research projects, examinations, and other academic activities. The guidelines should specify acceptable and unacceptable uses of AI, requirements for acknowledging AI assistance where applicable, procedures for verifying generated information, and measures for protecting academic integrity. Also there should be a provision of affordable internet access, improvement of electricity and digital infrastructure.
c. Promotion of Independent Learning and Critical Thinking: Students should be encouraged to use AI tools to deepen their understanding rather than merely generate answers for submission.

REFERENCES

1. Abbasi, M. U., Shah, S. A. S., & Khaskhelly, F. Z. (2023). Measuring the level of automation and its impact on organizational performance and employees' job performance. *Journal of Entrepreneurship, Management, and Innovation*, 5(4). https://doi.org/10.52633/jemi.v5i4.337
2. Akinwalere, S. N., & Ivanov, V. (2022). Artificial intelligence in higher education: Challenges and opportunities. Border Crossing, 12(1), 1–15. https://doi.org/10.33182/bc.v12i1.2015
3. Akinnusi, A. E. (2026). Influence of artificial intelligence on students' academic performance in Adeyemi Federal University of Education, Ondo, Nigeria. *Ilmu Pendidikan: Jurnal Kajian Teori dan Praktik Kependidikan,* 11(4), 278–284. https://doi.org/10.17977/2549-7774.005871
4. Alabi, A. J., Oyekola, A. H., & Joyce, O. O. (2025). Lecturers' perception and adoption of artificial intelligence (AI) tools in tertiary institutions in Ondo State, Nigeria. ETDC: *Indonesian Journal of Research and Educational* Review, 4(4), 1664–1676. https://doi.org/10.51574/ijrer.v4i4.3883
5. Bancoro, J. C. M. (2024). The relationship between artificial intelligence (AI) usage and academic performance of business administration students. *International Journal of Asian Business and Management*, 3(1), 27–48. https://doi.org/10.55927/ijabm.v3i1.7876
6. Biggs, J., & Tang, C. (2011). Teaching for quality learning at university (4th ed.). Open University Press.
7. Edionwe, N. (2024). Influence of artificial intelligence on academic performance of Business Education postgraduate students in public universities in South-South Nigeria. *International Journal of Humanities Social Science and Management,* 4(4), 724–732.
8. Ezeaku, F. N., & Agu, P. U. (2025). Perceived impact of artificial intelligence on effective learning in tertiary institutions in South-East Nigeria. Review of Education, 37(4), 209–218. https://reviewofeducation.unn.edu.ng
9. Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., ... Kasneci, G. (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
10. Nwoye, U. E., & Okafor, O. S. (2026). Artificial intelligence and academic achievement of students in public universities in Anambra State. *International Journal of Innovative Education Research,* 14(1), 263–274. https://www.seahipublications.org
11. Ogbuoka, O. M., Cyrus, F. N., Okere, R. C., & Obizue, E. C. (2025). Artificial intelligence and effective school management in Nigeria. *International Journal of Education Research and Scientific Development,* 8(1), 158–172. https://doi.org/10.59795/ijersd.v8i1.255
12. Pasaribu, M., & Widjaja, A. (2022). *Artificial intelligence: Perspektif manajemen strategis.* Kepustakaan Populer Gramedia.
13. Tamimi, J., Addichane, E., & Alaoui, S. M. (2024). Evaluating the effects of artificial intelligence homework assistance tools on high school students' academic performance and personal development. *Arab World English Journal (AWEJ), Special Issue* on CALL, 10, 36–42. https://doi.org/10.24093/awej/call10.3

14. Tlili, A., Shehata, B., Adarkwah, M. A., Bozkurt, A., Hickey, D. T., Huang, R., & Agyemang, B. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. Smart Learning Environments, 10, Article 15. https://doi.org/10.1186/s40561-023-00237-4
15. United Nations Children's Fund. (2021). Policy guidance on AI for children (Version 2.0). UNICEF.
16. United Nations Educational, Scientific and Cultural Organization. (2019). Beijing consensus on artificial intelligence and education. UNESCO.
17. UNESCO. (2023). Guidance for generative AI in education and research. UNESCO. https://doi.org/10.54675/EWZM9535
18. Yusuf, A., Pervin, N., Román-González, M., & Noor, N. M. (2024). Generative AI in education and research: A systematic mapping review. Review of Education, 12(2). https://doi.org/10.1002/rev3.3489
19. Zirawaga, V. S., Olusanya, A. I., & Maduku, T. (2017). Gaming in education: Using games as a support tool to teach history. *Journal of Education and Practice*, 8(15), 55–64.
20. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education—Where are the educators? *International Journal of Educational Technology in Higher Education*, 16, Article 39. https://doi.org/10.1186/s41239-019-0171-0