A STUDY OF MOUAU FIRST YEAR STUDENTS' AWARENESS & PERCEPTION ABOUT THE ADVANTAGES & DISADVANTAGES OF THE USE OF AI IN EDUCATION

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ABSTRACT

The study investigated the awareness and perception about the advantages and the disadvantages of the use of Artificial Intelligence in education by year one students of Michael Okpara University of Agriculture, Umudike. The research design was a descriptive survey. A table of percentages was used to analyze the data collected. The study revealed that students use AI privately but it has not been fully deployed in teaching by the institution's lecturers. Furthermore, the findings showed that AI use in education has benefits and disadvantages.

Keywords: Artificial Intelligence, awareness, perception, Education, teaching and learning.

Introduction

Technology has proven over the years to be one of the best drivers of development in the world. It has made life easy in many fields and domains of human endeavor including education, which on its own is the bedrock of societal and human development. The current invention in the field of technology revolutionizing every sphere of life is artificial intelligence (AI).Artificial intelligence (AI) refers to the machine's ability to stimulate human cognitive functions and perform tasks that typically require human intelligence, including perception, reasoning, learning, problem-solving, and understanding natural language. (The

A-Z Guide, 2023:5). Ahngar el (cited in Olorkor & Gideon 2024:12) asserted that Artificial intelligence involves the mimicking of human intelligence in computer systems that are programmed to emulate human thought and behavior, encompassing abilities such as learning and problem-solving. There are different types of AI but they can be broadly categorized into weak/narrow AI and general/strong AI. Weak/narrow AI is designed to perform a specific task within a limited domain, for instance playing chess, or answering questions based on input but they lack general intelligence. Examples are ChatGPT, Bing AI, and Google Bard.

Education is not left out as it has benefited immensely from the introduction of artificial intelligence. It has contributed to improving learning and teaching and facilitating the task of the teacher. Through the use of artificial intelligence, learners have been able to get personalized learning experiences. Khawlah, Mead, and That summarized the benefits of AI to both the learners and the teachers thus:

> In the sector of education, artificial intelligence provides the potential of changing the way of teaching and learning, where artificial intelligence customizes learning by adapting the content to satisfy the individual needs of the students. Also, it can automate the administrative tasks, such as grades and tabulation, and allows teachers more space to focus on regulations (2023:106).

Also, Blerta, Florie, and Agron (2024:51) posited that artificial intelligence (AI) has become a transformative force, reshaping traditional paradigms and providing opportunities for personalized and efficient learning experiences. Despite the obvious benefits of artificial intelligence use in education, it is impossible to believe it has no disadvantages for learners and teachers alike. Both learners and teachers have misused AI in many aspects to the point that some authors and educational stakeholders are calling for a rethink on issues in the educational system. Furthermore, many educators and institutions are skeptical about introducing the use of AI in teaching and learning. Some of the persons having these reservations believe the introduction of AI in education will take away their jobs, thereby removing food from their tables. On the other hand, some institutions are cautious about the negative effects artificial intelligence would have on students such as over-dependence on machines and unethical use of the technology.

AI has come to stay and all we can do at this point is to control its misuse by both learners and teachers. It will serve as an instrument in the hands of teachers to facilitate the task of learning, teaching, and administration. It is pertinent tonote thatwhile many countries and

educational institutions of the advanced nations of the world have fully embraced and integrated the use of artificial intelligence in their educational system, their counterparts from the third world are yet to do the same. The level of awareness, perception, and the use of artificial intelligence in teaching and learning differs from country to country and from one educational institution to the other. Additionally, the level of misuse or unethical issues arising from the use of artificial intelligence by learners differs from country to country and institution to institution. Hence, the present study aims to study the awareness, and perception of year one students of the Michael Okpara University of Agriculture, Umudike about the advantages and the disadvantages of the use of artificial intelligence in Education. The school is located in South-East, Nigeria. A search through literature revealed that many researches have been carried out on the advantages and disadvantages of the use and the integration of artificial intelligence in teaching and learning in universities in Nigeria but none has been carried out on the topic in Michael Okpara University of Agriculture, Umudike. The choice of first year students was intentional and strategic as it provided, among others things, the research a basis to understand the status and the knowledge of the students on the subject before and after admission into the school.

Thus, the objective of the study was to determine first year students of MOUAU's awareness of artificial intelligence tools used in teaching and learning; study the use and integration of artificial intelligence tools by MOUAU first year students and lecturers; determine the advantages the disadvantages of artificial intelligence tools in learning. Summarily, the study sought to survey the use and integration of artificial intelligence and its tools in teaching and learning in Michael Okpara University of Agriculture, Umudike.

In order to guide the study, the following research questions were asked:

1) What is MOUAU first year students' awareness of artificial intelligence tools in teaching and learning?

2) Do MOUAU first year students and lecturers use artificial intelligence tools in teaching and learning?

3) What are the advantages of the use of artificial intelligence in teaching and learning?

4) What are the disadvantages of the use of artificial intelligence in teaching and learning?

Theoretical framework

The present study is anchored on the Cognitive Load Theory (CLT) and Innovation Diffusion Theory (IDT). The Cognitive Load Theory was propounded by John Sweller in 1988. The theory states that our working memory is only able to hold a small amount of information at

any given time and instructional methods should avoid overloading it to maximize learning. In a given face-to-face classroom, there are different students with different ages, interests, motivations, abilities, learning speeds (fast and slow learners), etc. The teacher may not be flexible enough due to time constraints and the rigid distribution of course outlines to carry every student in the class along. Learning in such circumstances may not allow all the learners to send information to long-term memory. AI learning tools offer the opportunity to bridge this gap and solve the problem as they enable students to learn in the way and manner they are best suited to.

Everett Rogers introduced the Innovation Diffusion Theory in 1962. The theory provided the foundation for understanding innovation adoption and the factors that influence an individual's choices of an innovation. Udemezue and Agwu (2018) define adoption theory as the decision made by an individual or a group of people to use or not to use an innovation (adopters/non-adopters). There are stages of adoption where the individual or a group of persons weigh the advantages and disadvantages of an innovation or technology before deciding on its adoption. Rogers stated that there are five stages potential adopters move through before adopting an innovation. The first stage is the stage of seeking knowledge about the innovation and its function. The second is the stage of persuasion where the potential adopter formulates an opinion about the innovation. The third is the stage of decision-making, to adopt or reject the innovation. The fourth stage occurs when the adopter implements the innovation. The fifth and final stage is the confirmation stage when the adopters seek reinforcement of their decisions to adopt the innovation. Generally, there are early adopters and late adopters. This theory is relevant to this study as it helps to evaluate the level of adoption of artificial intelligence by lecturers and year one students of Michael Okpara University of Agriculture.

Empirical Studies

The following studies were reviewed for this study.

Firstly, there is a study conducted by Olorkor & Gideon (2024). The study explored lecturers' level of awareness, perception and anticipated barriers on the integration of Artificial intelligence technologies into agricultural education. A sample of fifty six lecturers from universities in South-East of Nigeria participated in the study. The instrument for data collection was a questionnaire. The findings of the study revealed that 44.29% demonstrated no awareness of Artificial intelligence tools and 24.06% had slight awareness. However, 17.5% showed moderate awareness, 8.86% showed high awareness while 29% were very

aware. Also, while there was a general moderate awareness of integration of AI technologies, there were variations in the awareness levels for specific technologies. Learners also recognized AI's capacity to enhance programs efficiency, improve educational content, offer personalized learning, lecturers, on the other side, perceived several barriers to integrating AI technologies into Agricultural Education. Some of the barriers or constraints were lack of training, concerns about data privacy and security, ethical dilemmas, lack of institutional support and policies and the time and effort required for its planning and implementation. This study is similar to the present one. Though the study was conducted in the South-East, MOUAU was not one the sampled schools. In addition, the present study used students as respondents.

Secondly, a study was carried by Igwebuike and Anebi (2025) to examine how AI programs could enhance the teaching profession in Nsukka Zone of Enugu State, Nigeria. The study adopted descriptive survey design with a population of 221 (88 males &133 females) teachers. The entire population was studied. The result showed that the use of AI programs enhances the teaching profession. This study is also similar with the present one though conducted in different geographical area.

Lastly, Okwori (2025) conducted a study on the application of artificial intelligence for effective teaching in Nigeria public universities. The purpose of the study was to examine the challenges and benefits of using AI technologies in teaching in public universities. The study revealed that there was a positive reception of AI-enhanced teaching tools among students and lecturers. It also discovered that AI helped to increase engagement, personalized learning experience, efficient assessment mechanism. However, the findings revealed concerns relating to data privacy, accessibility and technological proficiency and limited power supply in Nigeria. These factors posed serious barriers to adequate integration of AI in teaching in public universities and affected its adoption. The study concluded that the adoption of AI in teaching and learning in universities will go a long way to improve teaching and learning as well as unbiased assessment of students. The study is related and relevant to the present study with some areas of differences.

Methodology

The study adopted a descriptive survey design. This research design is considered appropriate for the study as it sought to collect as well as analyze data from year one students at Michael Okpara University of Agriculture, Umudike. The population of the study was all the first year

students of MOUAU (3360) admitted in the 2023/2024 academic session. The sample consisted of 10% of the population size obtained through simple random sampling.

The instrument for data collection is a researcher-constructed questionnaire using Google form. Three experts, two from the Department of Foreign Languages and Literary Studies, University of Nigeria, Nsukka, and one from the measurement and evaluation unit of the Department of Science Education, MOUAU face-validated the instrument. The validated instrument was trial-tested to ascertain its reliability. The Cronbach Alpha method was used to ascertain the reliability which yielded a 0.79 reliability coefficient. This showed it was reliable. The data collected was analyzed using a table of percentages.

Results

Table 1: Q1: What is MOUAU first year students' awareness of AI tools used in teaching and learning?

S/N	ITEMS	Total respondents	Yes	%	No	%	Not sure	%
1	Do you know what artificial intelligence is?	341	305	89.4%	12	4%	20	6%
2	Artificial intelligence can be used in the field of education.	341	316	92.7%	8	2.3%	17	5%
3	AI is a product of technological advancement.	341	327	95.99	4	1.17%	9	3%

Table 2: Q2: Do MOUAU first year teachers and students use AI in teaching and learning?

S/N	ITEMS	Total respondents	Yes	%	No	%	Not sure	%
1	AI is used in teaching in MOUAU	339	43	12.7%	187	55.2 %	109	32.2%
2	Has any lecturer asked you to perform tasks with Artificial intelligence?	342	40	11.7%	259	75.7 %	43	12.6%
3	Do you use AI tools during private learning?	341	262	76.8%	69	20.2 %	10	3%
4	Do you do your assignment with AI?	341	187	54.8%	139	40.8 %	15	4.4%

Table 3: Q3: What are the advantages of AI use in teaching and learning?

S/N	ITEM	Total respondent	Yes	%	No	%	Not sure	%
1	AI enhances my personal learning experiences.	340	292	85.9%	34	10%	14	4.1%
2	AI improves my learning capacity.	340	273	80.3%	47	13.8%	20	5.9%
3	AI helps me with personalized learning.	340	274	80.6%	42	12.4%	24	7%
4	AI helps me learn at my speed.	340	267	78.5%	54	15.9%	19	5.6%
5	AI helps me do my homework efficiently.	340	203	59.7%	91	26.8%	46	13.5 %
6	AI enhances my learning outcome.	340	245	72.1%	61	17.9%	34	10%
7	AI helps me improve my spelling ability.	339	258	76.1%	58	17.1%	23	6.8%
8	AI makes me depend less on classroom lectures.	340	82	24.1%	229	67.4%	29	8.5%

Table 4: Q4: What are the disadvantages of AI use in teaching and learning?

S/N	ITEM	Total respondent	Yes	%	No	%	Not sure	%
1	I use AI to answer questions during tests or quizzes.	341	48	14%	279	82%	14	4.%
2	I use AI during an examination.	340	0	0%	327	96.2%	13	3.8%
3	The use of AI in education can lead to missing human relationship	341	125	36.7%	128	37.5%	88	25.8%
4	The use of AI in teaching and learning can lead to over-reliance on machines.	339	192	56.7%	95	28%	52	15.3%
5	The use of AI can tamper with data privacy.	340	126	37.1%	133	39.1%	81	23.8%
6	AI makes me think less while performing learning tasks such as assignments.	336	155	46.1%	135	40.2%	46	13.7%
7	AI can make one lose	337	153	45.4%	132	39.2%	52	15.4%

	interest in a face-to-face lecture.							
8	I will use AI to do my final year project.	337	19	5.7%	231	68.5%	87	25.8%

Discussion of findings

From the result presented in Table 1, MOUAU first year students know what AI is and are aware of its usage in education. Specifically, 89% responded positively to the first item on the knowledge of AI and 92.7% agreed that AI can be used in the educational domain.

The findings from Table 2 revealed that while the students (76%), individually use AI tools for learning, only very few lecturers (12.7%) use AI tools to teach. 55% of students stated that AI was not used to teach them.

The data in Table 3 on the advantages of AI use in Education revealed that AI has many advantages such as enhancement of students' learning, improvement of their learning capacity, and personalization of learning. Also, AI helps students learn at their own pace, improve their spelling ability, and enhance their learning outcomes.

The data presented in Table 4 revealed that the use of AI in education has some disadvantages and misuse on the part of the learners. Among other things, AI use in education can lead to students missing human relationships and overreliance on machines. It also slows their critical thinking development and makes them lose interest in face-to-face teaching.

The findings are in line with the studies reviewed under empirical studies.

Conclusion

The impact of technology in education cannot be overemphasized. It has birthed another powerful tool known as AI, making waves in different domains of life. However, its relevance and acceptance in the educational sector have been subjected to too much argument and contradiction. While many countries and educational institutions have embraced its use in education some others are yet to fully integrate it into education. In this work, we have been able to investigate the level of MOUAU first year students'awareness, perception about the advantages and disadvantages of the use of AI. The study revealed that the majority of the institution's students know and use AI tools in their private learning. However, the lecturers have yet to fully deploy it in teaching.

Recommendations

1) Given the benefits of AI, the lecturers of the institution should embrace and deploy AI tools in teaching the students. The school management can lead the way by

encouraging lecturers to integrate AI into their teaching. The school should make AI-powered learning and teaching platforms available to lecturers.

2) The school management should organize periodic workshops, especially for fresh students on the appropriate and ethical use of AI to checkmate its misuse.
3) The Government at all levels should assist or empower federal universities in the integration and installation of AI-powered educational learning platforms because these platforms are costly to operate.

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