Journal of Theoretical and Empirical Studies in Education
Vol. 10 Issue 1 April, 2025

PERCEIVED IMPACT OF ARTIFICIAL INTELLIGENCE ON THE TEACHING AND LEARNING OF GUIDANCE AND COUNSELLING AMONG LECTURERS AND UNDERGRADUATE STUDENTS OF FEDERAL UNIVERSITY OF EDUCATION, ZARIA, KADUNA STATE

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Abstract
The study investigated the perceived impact of Artificial Intelligence (AI) on the teaching and learning of Guidance and Counselling among lecturers and undergraduate students of Federal University of Education, Zaria. Survey research design was adopted. Two research objectives with two research questions and corresponding hypotheses were formulated and tested at 0.05 level of significance to guide the study. Population of the study consisted of all the lecturers and undergraduate students of school of education in FUEZ with sample size of 300 students and 90 lecturers. Instrument for data collection was questionnaire (IAITLGC) to illicit information from the respondents. The instrument was validated by 3 expert from measurement and evaluation section in the department of psychology with coefficient of 0.79. The simple percentage was used to analyse research questions while PPMC was used to analyse the research hypotheses. The study revealed that there is great significant relationship between AI and the teaching of Guidance and Counselling and there is also significant relationship between AI and the learning of Guidance and Counselling among undergraduate student of FUEZ. It was therefore concluded that there is great impact of AI on the teaching and learning of Guidance and Counselling among lecturers and undergraduate students in FUEZ. It was recommended that more facilities that will enhance the use of AI by the University should be encouraged.

Keywords: Artificial Intelligence, Teaching and Learning, Guidance and Counselling

Introduction

In the current era of globalization, an influence that cannot be ignored comes from the rapid advancement of information and communication technology on the education sector. One of the advances in Information and Communication Technology (ICT) is the presence of Artificial Intelligence (AI) Technology, which is a system developed to have intelligence similar to humans. AI is known for its ability to adapt, make decisions, cognitive, problem-solving, and learning. In the context of education, the application of AI can lead to significant changes by enabling personalization in learning, where the learning experience is tailored to the needs and abilities of each student. AI-related education is also important in preparing future generations to face increasingly complex global challenges. (Komalasari, 2020). The user community, especially among academics, is increasingly feeling the huge impact of the progress and development of science and technology (IPTEK). One aspect of human life that is significantly affected by this technology is education, especially in learning activities (Serdianus, 2023).

The role of technology in guidance and counseling, as an important part of education, is increasingly strengthened along with its role being recognized in the national education system through Law no. 20 of 2003 concerning the national education system, as well as the confirmation of this profession within the scope of formal education (Abkin, 2018). This should be the main basis for counselors to utilize technology to increase student learning motivation. Motivation plays a crucial role in the teaching and learning process, both for teachers and students. For teachers, understanding students' learning motivation is very important to maintain and increase their enthusiasm for learning. Meanwhile, for students, motivation is a trigger for their desire to learn, encouraging active involvement in learning activities with joy.

Loss of motivation to learn is a problem experienced by many students, which is characterized by indifference, lack of attention, and incomplete assignments. Artificial Intelligence (AI), as a concept that emerged from the Industry 4.0 Era and

Society 5.0, combines computer programs, machine learning, and hardware and software solutions. AI offers great potential in building intelligence using such innovative solutions, including in educational contexts. Reverse engineering of neutron patterns, which operate in the human brain, is one of the flagship products of Industry 4.0. This technology has found wide use in various industrial sectors, including education, where it is used for development and implementation in daily activities (Darajati, 2023)

The previous research related to digital learning with artificial intelligence (AI) with the correlation of AI to student learning motivation (Ronsumbre, 2023) this study aims to describe the implications of using AI on student learning motivation. The effect of Artificial intelligence Tools on student learning motivation in terms of Rogers Theory (Ishmatun, 2023), the results of this study indicate that AI Tools can affect student learning motivation for the better due to the availability of information and personalized needs for each student. Digital Learning with Artificial Intelligence (AI): Correlation of AI to Student Learning Motivation (Selviana, 2023), the results of this study show the importance of integrating AI wisely in education and emphasize the need for attention to ethical and practical aspects. AI involves machines with a certain level of intelligence that can perform functions similar to humans, including perception, knowledge, judgment and adaptation to the environment (Watini *et al*., 2022.

In today's ever-evolving digital landscape, artificial intelligence (AI) has become a prominent force driving transformation across various industries. One area where AI is making significant strides is in the realm of education, specifically in the field of career guidance and counseling. With its ability to analyze vast amounts of data, provide personalized recommendations, and engage students in innovative ways, AI is revolutionizing the way schools approach career guidance. Before delving into the impact of AI on school career guidance and counseling, it's essential to grasp the basics of AI in the context of education. AI refers to the development of computer systems that can perform tasks that typically require human

intelligence, such as learning, problem-solving, and decision-making. In the education sector, AI is being used to enhance teaching and learning experiences, streamline administrative processes, and now, provide tailored career guidance to students. Traditionally, guidance and counseling in schools have relied on human counselors to provide advice, information, and support to students as they navigate their educational and career paths. However, with the advent of AI, these services are being augmented and enhanced. AI technology can analyze a vast array of data, including academic performance, interests, skills, and labor market trends, to provide students with personalized career recommendations and guidance.

AI is transforming guidance and counseling by offering personalized and data-driven insights to students. Through sophisticated algorithms, AI can assess students' strengths and weaknesses, match their skills with potential career paths, and offer guidance on the educational requirements needed to pursue their chosen careers. This level of personalization and precision is beyond the capabilities of traditional career counseling methods, providing students with a more informed and accurate understanding of their options.

The integration of AI in career counseling brings numerous benefits to both students and educational institutions. Firstly, AI can provide students with a wider range of career options and opportunities that align with their skills and interests. It also helps students make well-informed decisions by presenting them with accurate information on job prospects, salary ranges, and educational requirements. Additionally, AI can alleviate the burden on human counselors by automating certain tasks, allowing them to focus on providing personalized support and guidance to students. The use of AI has been proven to be very impactful in the current 21th century, for more and current knowledge, teachers and students are all expected to be familiar with the use of AI. The advent of AI has made teaching and learning easy as most solutions to problems are being provided by AI. Most lecturers and students seek knowledge from AI in the process of seeking for information or knowledge on internet.

While the implementation of AI in career counselling holds great promise, it is not without its challenges and concerns. One major concern is the potential bias in AI systems, which may perpetuate existing social inequalities or inadvertently discourage students from pursuing certain career paths. Additionally, there are concerns about the security and privacy of student data and the ethical implications of AI's involvement in decision-making processes.

By harnessing the power of AI, tertiary institutions can equip their lecturers and students with the necessary tools and resources to navigate their career paths successfully in an increasingly complex and dynamic job market. Impact of AI in teaching and learning of guidance and counselling has not really been utilized by most non computer compliance (old generation) as expected, hence this study. However, there are concerns about the potential negative impact of its widespread use on cognitive abilities, particularly in academic writing (Liu *et al*., 2023). Research and education fundamentally rely on evidence, decision-making, critical thinking, and analytical thinking are crucial for thoroughly analyzing and evaluating the quality of information found in existing literature studies (Hanim *et al*., 2020). The importance of cultivating a mindset of cognitive abilities cannot be overstated, especially for students who are tasked with synthesizing, evaluating, and forming arguments (Kaeppel, 2021).

Few of studies have explored ethical concerns associated with AI dialogue systems, including but not limited to AI hallucinations (Gao *et al*., 2022), algorithmic biases (Mbalaka, 2023), plagiarism (De Angelis *et al*., 2023), privacy concerns (Alrazaq *et al*., 2023) and transparency concerns (Carvalho *et al*., 2019). AI hallucinations in AI dialogue systems are characterized by the generation of inaccurate or misleading information (Hatem *et al*., 2023). Research indicates that these ethical concerns could contribute to an over-reliance on AI dialogue systems (George & Wooden, 2023; Song & Xiong, 2021; Zhai & Wibowo, 2023), potentially impairing critical cognitive skills such as critical thinking (Dergaa *et al*., 2023),

decision-making (Duhaylungsod & Chavez, 2023), and analytical thinking (Grassini, 2023).

A few studies have been conducted on the issues concerning over-reliance on AI dialogue systems. Gao *et al*. (2022) found a concerning trend where users exhibit an over-reliance on AI dialogue systems, often accepting their generated outputs, AI hallucination, without validation. This overdependence is exacerbated by cognitive biases where judgments deviate from rationality and heuristics or the use of mental shortcuts, leading to uncritical acceptance of AI-generated information. Grassini (2023) identified that algorithmic biases are frequently a result of AI systems being trained on datasets with inherent prejudices, causing users to regard these biased outputs as objective mistakenly. This misplaced trust can skew analysis and interpretation, further entrenching the issue. Xie *et al*. (2021) found that over-reliance on unverified AI outputs can cause misclassification and misinterpretation. The generation of such unvalidated content by AI systems poses a significant risk, potentially culminating in research misconduct, including plagiarism, fabrication, and falsification. Dempere *et al*. (2023) highlighted the risks associated with embedding AI dialogue systems in higher education, such as privacy violations and illegal data use. Chunpeng, Santoso and Lily (2024) caution against the normalization of intrusive data practices that might emerge from an over-reliance on AI, where the collection and analysis of student data do not fully honor privacy rights.

The objectives of the study is to investigating the impact of artificial intelligence on the teaching and learning of Guidance and Counseling among lecturers and undergraduate students of Federal University of education, Zaria, Kaduna State

The following are the objectives of the study:

1. To examine the perceived impact of AI on the teaching and learning of guidance and counselling among the lecturers of Federal University of Education, Zaria.

2. To find out the use of AI among the undergraduates students of Federal University of Education, Zaria in learning of Guidance and Counselling.

The following are the research questions for the study

1. What is the perceived impact of AI on the teaching of guidance and counselling among the undergraduate students in Federal University of Education, Zaria?
2. To what extent is the use of AI among undergraduate students in the learning of Guidance and Counselling in Federal University of Education, Zaria?

The following hypotheses were tested at 0.05 alpha level of significance:

1. There is no significant relationship between the perceived impact of AI and teaching of Guidance and Counselling among the lecturers of Federal University of Education, Zaria.
2. There is no significant relationship between the extent of use of AI and the learning of Guidance and Counselling among the undergraduate students of Federal University of Education, Zaria.

Methodology

The research design adopted for the study was a descriptive survey research design. This design is considered appropriate because it enables the researchers to generate data through the standardized collection procedures based on highly structured research instrument(s) and well-defined study concepts and related variables. The population of the study consisted 7 Departments of School of Education with a total number of 157 Lecturers and 3000 undergraduate students of school of education in FUEZ with sample size of 300 students and 90 lecturers.

A well-constructed and researcher developed Questionnaire titled Impact of Artificial Intellection on Teaching and Learning of Guidance and Counselling (IAITLGC) was used to get the desired information from the lecturers and students. The questionnaire was divided into three sections (A, B and C). Section A was for collection of information on personal data of the respondents while Section B

consisted of questionnaire that elicited responses from the respondents on the relationship between the impact of AI and teaching of Guidance and Counselling among the lecturers of Federal University of Education, Zaria and section C contained information on the relationship between the extent of use of AI and the learning of Guidance and Counselling among the undergraduate students of Federal University of Education, Zaria. The section B and C had response options scored of Strongly Agree (SA) = 4, Agree (A) = 3 Disagree (D) = 2 and Strongly Disagree (SD) = 1.

The instrument was validated by 3 experts from Measurement and Evaluation section of Department of Psychology for vetting and correction were effected before distributing copies of the questionnaire to the respondents. The reliability of the research instrument was determined using a split half test using the odd and even numbered items to form the two halves. The two halves were administered to a sample of lecturers and students in Zaria metropolis. The Pearson Product Moment Correlation Coefficient was used to determine the reliability of the instrument. A coefficient value of 0.79 indicated that the research instrument was reliable; hence it was adopted for getting the desired information for the study.

Results

Research Questions one: What is the impact of AI on the teaching of guidance and counselling among the lecturers in Federal University of Education, Zaria?

Table 1: Impact of AI on the teaching of Guidance and Counselling among the lecturers in Federal University of Education, Zaria.

Statement	Respondents			
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
1. AI makes teaching of Guidance and Counselling effective	150 33.3%	140 33.3%	50 16.7%	50 16.7%
2. AI makes research very easy	150 50.0%	140 33.3%	55 10.0%	45 6.7%
3. Materials made available by AI are not always reliable	160 33.3%	150 50.0%	40 6.7%	40 10.0%
4. Research answers given by AI are not very details for effect research	160 53.3%	150 30.0%	50 10.0%	30 6.7%
5. The existence of AI has made lecturers lazy in carrying out research	170 50.0%	150 30.0%	60 13.3%	30 6.7%
6. Some lecturers are still analogy and don't use AI during research	180 33.3%	150 50.0%	30 6.7%	30 10.0%
7. The use of AI has made teaching experience universal	180 50.0%	150 36.7%	30 6.7%	30 6.7%
Total	**10150** **42.1%**	**880** **38.8%**	**315** **10.4%**	**255** **8.8%**

Source: field work 2024

Table 1: showed the results of the opinions of the respondents Impact of artificial intelligence on the teaching and learning of guidance and counselling among Lecturers in Federal University of Education, Zaria, Kaduna State. The benchmark for the study is 0.05 significance level. From the analysis, 42.1 percent out of the total respondents strongly agree to all seven (7) items in the table above which indicated that AI makes teaching of Guidance and Counselling effective, AI makes research very easy, Materials made available by AI are not always reliable, research answers given by AI are not very details for effect research, and the existence of AI has made lecturers lazy in carrying out research, some lecturers are still analogy and don't use AI during research and the use of AI has made teaching experience universal, 38.8 percentage agree, 10.4 percentage strongly disagree while 8.8 percent of the respondents disagree.

Table 2: Use of AI among undergraduate students in the learning of Guidance and Counselling in Federal University of Education, Zaria

Statement	Respondents			
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
1. Most students use android phone for assignment	150 33.3%	140 33%	50 16.7%	50 16.7%
2. Students have little knowledge of AI	150 50.0%	140 33.3%	55 10.0%	45 6.7%
3. Most students copy word to word from AI without proper understanding	160 33.3%	150 50.0%	40 6.7%	40 10.0%
4. AI has made students lazy as they depend on AI for every knowledge	160 53.3%	150 30.0%	50 10.0%	30 6.7%
5. AI gives misleading information as there is no room for clarification	170 50.0%	150 30.0%	60 13.3%	30 6.7%
6. Learning from AI needs to be guided by a professional	180 33.3%	150 50.0%	30 6.7%	30 10.0%
7. Learning of guidance and counselling is made easy with the use of AI	180 50.0%	150 36.7%	30 6.7%	30 6.7%
Total	**10150** **42.1%**	**880** **38.8%**	**315** **10.4%**	**255** **8.8%**

Also, table 2 showed the results of the opinions of the respondents which indicated that Most students use android phone for assignment. 66.3% of the respondents also agree that Students have little knowledge of AI. 83.3% of the respondents agree that most students copy word to word from AI without proper understanding while 26.7% of the respondents disagree. 83.3% of the respondents agree that AI has made students lazy as they depend on AI for every knowledge, 26.7% of the respondents disagree. 80% of the respondents agree AI gives misleading information as there is no room for clarification while 20% disagree. This implies that majority of the respondents agree that AI gives misleading information as there is no room for clarification. 80% of the respondents agree that learning from AI needs to be guided by a professional. 83% of the respondents agree that Learning of guidance and counselling is made easy with the use of AI, 20 % of the respondents disagree. This implies that learning from AI needs to be guided by a professional.

Hypotheses Testing

Hypothesis One: There is no significant relationship between the impact of AI and teaching of Guidance and Counselling among the undergraduate students of Federal University of Education, Zaria.

Table 2: Impact of AI and teaching of Guidance and Counselling among the lecturers of Federal University of Education, Zaria.

Variables	N	Mean	SD	R	Df	p-value	Remark
Impact of AI	390	65.7	64.9	.849	299	.000	Strongly positive
Teaching of Guidance and Counselling	390	4.84	2.58				

Table 2 showed that there is a statistically significant relationship between the impact of AI and teaching of Guidance and Counselling among the lecturers of Federal University of Education, Zaria. (r= .849, df= 299, p<0.05). This means that there is significant relationship between impact of AI and teaching of guidance and counselling of teacher's education among the lecturers of Federal University of Education, Zaria. Therefore, the null hypothesis is rejected.

Hypothesis Two: There is no significant relationship between the extent of use of AI and the learning of Guidance and Counselling among the undergraduate students of Federal University of Education, Zaria.

Table 3: Correlation Analysis relationship between use of AI and the learning of Guidance and Counselling among the undergraduate students of Federal University of Education, Zaria

Variables	N	Mean	SD	R	Df	p-value	Remark
Use of Artificial Intelligence (AI)	390	87.5	45.9	**.699**	299	.000	**Positively correlated**
Learning of Guidance and Counselling	390	1.23	.486				

Table 3: showed that there is a statistically significant relationship between use of AI and the learning of Guidance and Counselling among the undergraduate students of Federal University of Education, Zaria. (r= 0.699, df= 299, p<0.05). This implies that there is significant relationship between the use of AI and the learning

of Guidance and Counselling among the undergraduate students of Federal University of Education, Zaria Therefore, and the null hypothesis is also rejected.

Discussions

This study was set out to explore the Impact of artificial intelligence on the teaching and learning of guidance and counselling among Lecturers and Undergraduate Students of Federal University of Education, Zaria, Kaduna State. Based on the findings of research question and hypothesis one which examined the perceived impact of AI on the teaching and learning of guidance counselling among the lecturers of federal university of education, Zaria and the hypothesis which stated that there is no significant relationship between the impact of AI and teaching of Guidance and Counselling among the lecturers of Federal University of Education, Zaria, the study revealed that there is a statistically significant relationship between the impact of AI and teaching of Guidance and Counselling among the lecturers of Federal University of Education, Zaria. ($r= .849$, $df= 299$, $p<0.05$). This means that there is significant relationship between the impact of AI and teaching of Guidance and Counselling among the lecturers of Federal University of Education, Zaria. Therefore, the null hypothesis is rejected. This is support by the findings of (Serdianus, 2023) which stated that the role of technology in guidance and counseling, as an important part of education, is increasingly strengthened along with its role being recognized in the national education system through Law no. 20 of 2003 concerning the national education system, as well as the confirmation of this profession within the scope of formal education.

Research question two which try to find out the use of AI among the undergraduate students of Federal University of Education, Zaria in learning of Guidance and Counselling. Hypothesis two which stated that that there is a statistically significant between the extent of use of AI and the learning of Guidance and Counselling among the undergraduate students of Federal University of Education, Zaria. ($r= 0.699$, $df= 299$, $p<0.05$). This implies that there is relationship

between the extent of use of AI and the learning of Guidance and Counselling among the undergraduate students of Federal University of Education, Zaria. This finding is supported by (Ishmatun, 2023), the results of this study indicate that AI Tools can affect student learning motivation for the better due to the availability of information and personalized needs for each student. Digital Learning with Artificial Intelligence (AI): Correlation of AI to Student Learning Motivation

However, there are concerns about the potential negative impact of its widespread use on cognitive abilities, particularly in academic writing (Liu *et al*., 2023). Research and education fundamentally rely on evidence, decision-making, critical thinking, and analytical thinking are crucial for thoroughly analyzing and evaluating the quality of information found in existing literature studies (Hanim *et al*., 2020). The importance of cultivating a mindset of cognitive abilities cannot be overstated, especially for students who are tasked with synthesizing, evaluating, and forming arguments (Kaeppel, 2021).

Conclusion

Based on the findings of this study, it was concluded that, there is significant relationship between impact of AI and the teaching of guidance and counselling. There is also a relationship between AI and the learning of guidance and counselling.

Recommendations

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

1. The use of AI should be encouraged to enhanced the teaching and learning.
2. All facilities that will enhance the use of AI should be encourage since AI has become a global usage.

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