



EVALUATION OF TEACHERS' NAVIGATION OF ETHICS OF ARTIFICIAL INTELLIGENCE IN PUBLIC SECONDARY SCHOOLS IN AWKA SOUTH LOCAL GOVERNMENT AREA OF ANAMBRA STATE



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Abstract

The study evaluated teachers' navigation of artificial intelligence's ethics in public secondary schools in Awka south local government area of Anambra State. this study was anchored on two research questions. The study adopted descriptive survey research design. The population of the study comprised all the teachers in the 19 public secondary schools in Awka South LGA totaling 604. Stratified simple random technique was used to select 10 schools with 121 teachers. The instrument for the study was designed by the researcher and entitled "Evaluation of Teachers' Navigation of Artificial Intelligence's Ethics Questionnaire" (ETNAIEQ). Validity of the instrument was done by three experts in related areas. The reliability of the instrument was carried out using Cronbach Alpha method which yielded co-efficient value of 0.85 which was considered adequate for the study. Administration of the instrument was done by the researcher along with four trained research assistants. Out of 121 copies of the questionnaire distributed, 105 copies were recovered making a total of 86.7% return rate which is rated good for the study. The analysis of the data was done using statistical mean to answer the research questions. It is the findings of the study that teachers are unaware of the artificial intelligence's ethics in public secondary schools in Awka South LGA. Based on the findings, it is recommended that seminars and conferences be speedily carried out for teachers in public secondary schools on the awareness of navigation of artificial intelligence' ethics for quality educational delivery process.

Keywords: Evaluation, Teachers, Navigation, Artificial Intelligence, Ethics and Public secondary schools.

Introduction

Teachers are the implementers of educational curriculum. They are the students' feeders when it comes to the inculcation of relevant knowledge, skills, norms and values. A teacher is an educator or instructor who works in a school setting to teach students academic subjects, life skills and values. They are responsible for planning lessons, delivering of instruction, assessing student among others. Teachers are professionals who facilitate learning by transmitting relevant knowledge to the learners. They work in various educational institutions such as schools, colleges, universities and training centers.

According to Enwezor (2021), public secondary schools are those secondary schools that are being owned by the government. Public schools are established by the local, state or federal government for the general masses. As noted by Enwezor and Obi (2022), the government has utter control and funding architecture in public schools. Since the world has gone digital, there emerged the use of Artificial Intelligence (AI) in the teaching and learning space even in all levels of education which secondary education is one. Government has no doubt expressed interest in the integration of Artificial Intelligence (AI) in the education industry.

In this digital divide, Artificial Intelligence (AI) has found its way into educational institutions. Artificial Intelligence (AI) is the use of machineries to do works which formally were done by human beings alone such as complex human tasks (reasoning, calculations, data analysis among others).

According to Keng and Weiyu (2020) and Pazzanese (2020), AI involves technological oriented tools that are capable of performing complex human tasks such as facial recognition, medical diagnosis and self-driving cars.

Ethics is seen as the morality of the individuals that belong to a group. It goes to guide the individual on what is good or bad while taking positive decision on choosing that which is good. It is based on this dimension that Nalini (2019) defined ethics as the moral principles that control the behaviors of an individual or a group of individuals. This implies that ethics is a wide range of rules and regulations put in place to determine what is good or bad, right or wrong. Ethics has with it moral system such as moral obligations and duties expected of human actions and inactions which regulate their behaviours in dealing with one another.

Artificial Intelligence ethics are those moral principles that could be attributed to the utilization of artificial intelligence and/or humanoid machines so as to achieve predetermined objectives. Keng and Weiyu (2020) laid weight on the afore-mentioned opinion and reaffirmed that ethics of AI deals with moral obligations and duties of an AI and its makers. The scholars perceived that ethics of AI has two subdivisions namely: Robot ethics and Machine ethics. It is Rob ethics when the moral behaviours of humans are considered in the design, construct, use and interact with AI agents as well as its attendant influence on robots on humanity and society at large. Ethics of AI involves ethical issues that concerned AI creation and usage. To Nwankwo (2020), AI ethics are the set of guiding principles all the AI actors should put to use to ensure AI is developed and utilized responsibly thereby maintain safe, secure, humane environmentally friendly approach to AI.

Ramos (2024) and Resnik and Hosseini (2024) while stressing the essence of ethics in AI pointed out that the main aim of the emergence of AI is to reshape the former way people work, interact and live thereby replacing the deployment of printing press six centuries ago. Enwezor and Chukwunonye (2022) noted earlier that there are lots of benefits in the usage of AI technology but these benefits could be challenged by non-implementation of ethical guardrails which could lead to discrimination and gas lighting of divisions that threaten fundamental human rights and freedoms. Earlier, Enwezor, and Chukwunonye (2021) identified four core values upon which the foundations for AI are laid namely; human rights and human dignity which involves respect, protection and promotion of human rights and fundamental freedoms and human dignity. Living in peace through just and interconnected societies which digitalization provide. Ensuring diversity and inclusiveness which has to do with maintaining good human relationship through peaceful co-existence and harmonious living and environment and ecosystem flourishing. In consonance with the above assertions, Foltynnek, Bjelobaba and Kravjar (2023) amplified that there is need to avail the users the skills and ethics of Artificial Intelligence in workplaces. The basic Artificial Intelligence (AI) ethics, according to the authors are as follows:

1. Introduction of risk assessment to avoid harms which may crop up from use of AI beyond attaining legitimate goal.
2. Safety and security which deals with unwanted harms and vulnerabilities to attack should be prevented and addressed by AI actors.
3. Adequate data protection frameworks should be established so as to protect the AI life cycle.
4. International law and national sovereignty must be respected in data usage.
5. AI systems has to be tractable and auditable so as to care of oversight, impact assessment, audit and due diligence mechanism to address conflicts with human rights norms and threat to environmental wellbeing.
6. The level of transparency and explainability must by commensurate with the context so as to eliminate tensions between them and other principles such as privacy, safety and security.
7. The AI designers and other actors should ensure that AI system do not displace ultimate human responsibility and accountability.
8. There should be public enlightenment and understanding of AI and data promotion using open and accessible education, civic engagement, digital skills and AI ethics training, media and information.

9. All the AI players should try as much as possible to promote social justice, fairness, and non-discriminatory actions when taking an inclusive approach to ensure AI's benefits are accessible to all.

It therefore becomes very vital that all schools be part of the use of AI in pedagogical space for easy adaptability and meaningful studies. Anambra State being one of the best educationally advantaged states must demonstrate her prowess in this direction. Whether or not the state has stated incorporating AI in the classrooms to assist teachers should not derail the teachers from be aware of the use of AI to enhance teaching and learning and also get acquainted with the navigating AI ethics during teaching and learning encounter. This is in readiness to ensure that when finally, AI is fully embraced in the teaching and learning delivery process, the teachers would not be taken unawares just like what happened during the Covid-19 pandemic. It is premised on this that this study becomes necessary: to ascertain the level of awareness of AI in pedagogy as well as the ethics of AI. These are the elements of the research problems which make up the research questions.

The purpose of the Study

The main aim of this study is to evaluate teachers' navigation of artificial intelligence ethics in public secondary schools in Awka-South LGA. Specifically, this study sought to:

1. Ascertain the extent of awareness of teachers in navigation of artificial intelligence ethics in public secondary schools in Awka-South LGA.
2. Determine the extent of teachers' utilization of artificial intelligence ethics in public secondary schools in Awka-South LGA.

Research Questions

The following research questions guided the study;

1. To what extent are the teachers aware of the Artificial Intelligence ethics in public secondary schools in Awka-South LGA of Anambra State?
2. To what extent do teachers utilize Artificial Intelligence ethics in public secondary schools in Awka-South LGA of Anambra State?

Methods

The study adopted descriptive survey research design. The population of the study comprised all the teachers in the 19 public secondary schools in Awka South LGA totaling 604. Stratified simple random technique was used to select 10 schools with 121 teachers. The instrument for the study was designed by the researcher and entitled "Evaluation of Teachers' Navigation of Artificial Intelligence's Ethics Questionnaire" (ETNAIEQ). Validity of the instrument was done by three experts in related areas. The reliability of the instrument was carried out using Cronbach Alpha method which yielded co-efficient value of 0.85 which was considered adequate for the study. Administration of the instrument was done by the researcher along with four trained research assistants. Out of 121 copies of the questionnaire distributed, 105 copies were recovered making a total of 86.7% return rate which is rated good for the study. The analysis of the data was done using statistical mean to answer the research questions. Four-point scale was used as follows; Totally Aware (TA=4), Aware (A=3), Unaware (UA=2), and Totally Unaware (TU=1) with the criterion mean of 2.50.

Presentation of Results

1. To what extent are the teachers aware of the Artificial Intelligence ethics in public secondary schools in Awka-South LGA of Anambra State?

Table 1: Responses on the Teachers Awareness of the Artificial Intelligence Ethics in Public Secondary Schools in Awka-South LGA of Anambra State.

s/n	State your level of awareness of the artificial intelligence ethics	Mean	Remarks
1	Respect for students' autonomy in learning.	2.00	UA
2	Encourage students to make informed decision about their own learning	2.04	UA
3	Avoid using AI-powered tools that may cause harm to students	2.22	UA



4	Considered potential biases in AI-driven systems and steps to mitigate them.	2.00	UA
5	Ensure AI-powered tools are fair, transparent and unbiased.	1.80	UA
6	Protect students' personal data and maintain confidentiality.	2.04	UA
7	Ensure compliance with relevant data protection regulations	2.00	UA
8	Ensure teachers and students have the autonomy to make choices and override AI- driven recommendations.	2.03	UA
	Grand mean	2.01	UA

The results presented on table 1 above indicated that most of the teachers in the public secondary schools in Awka South LGA were unaware of the artificial intelligence ethics with all the mean scores ranging from 1.80 to 2.22. these scores all fell below the criterion mean of 2.50. The grand mean gave rise to 2.01 which signaled unaware of the Artificial Intelligence ethics in the public schools under study.

2. To what extent do teachers utilize Artificial Intelligence ethics in public secondary schools in Awka-South LGA of Anambra State?

Table 2: Responses of the teachers on the percentage of utilization of Artificial Ethics in Public Secondary Schools in Awka-South LGA.

S/n	Utilization of Artificial Intelligence Ethics in your School	Percentage	Remark
1	Respect for students' autonomy in learning.	5%	Not utilized
2	Encourage students to make informed decision about their own learning	3%	Not utilized
3	Avoid using AI-powered tools that may cause harm to students	10%	Not utilized
4	Considered potential biases in AI-driven systems and steps to mitigate them.	5%	Not utilized
5	Ensure AI-powered tools are fair, transparent and unbiased.	2%	Not utilized
6	Protect students' personal data and maintain confidentiality.	0.00%	Not utilized
7	Ensure compliance with relevant data protection regulations	3%	Not utilized
8	Ensure teachers and students have the autonomy to make choices and override AI- driven recommendations.	5%	Not utilized
	Grand mean	4.13%	Not utilized

Table 2 presents the results of teachers' utilization of artificial intelligence ethics in public secondary schools in Awka South LGA of Anambra State. the result presentation above shows that most of the teachers do not utilize the artificial intelligence ethics in the public secondary schools in Awka-South LGA with all the percentage scores ranging from 0.00-10 percent which is below the average score of 50%. The grand mean portrayed 4.13%.

Findings

It is the findings of this study that most teachers in the public secondary schools in Awka-South LGA of Anambra State are not aware of the artificial intelligence ethics that would assist them navigate the hurdles of teaching and learning delivery process which using AI. This is crucial because without this set of ethical values that guide teachers, there could be misrepresentation of concepts and displacement of humanoid concept. It is for this reason thatFoltynek, Bjelobaba and Kravjar (2023) lucidly put that it could lead to discrimination and gas lighting of divisions that threaten fundamental human rights and freedoms.

The second findings of the study revealed that there is non-utilization of artificial intelligence ethics in the public secondary schools in Awka South LGA of Anambra State. The emergence of AI is to reshape the former way people work, interact and live thereby replacing the deployment of printing press. It is also aimed at helping the teachers overcome teaching and learning challenges that affords the teachers the opportunities of having individualized attention to students and reviewing the projects and assignments. It is on this premisethat Ramos (2024) and Resnik and Hossaeini (2024)maintained that



there are lots of benefits in the usage of AI technology but these benefits could be challenged by non-implementation of ethical guardrails.

Conclusion

Based on the result analysis and findings, the study concluded that teachers in public secondary schools in Awka South LGA of Anambra State were not aware of the ethics of artificial intelligence. Secondary, the teachers are do not make use of artificial intelligence in their pedagogical space. This has made teaching and learning cumbersome for the teachers and the learners.

Recommendations

In view of the above findings and conclusion, it is recommended as follows:

1. The government agency responsible for educational sector should as a matter of urgency organize enlightenment programme for not just the teachers but other school actors as well.
2. It is also suggested that educational agencies should expedite action and provide necessary artificial intelligence tools that could foster academic excellence when put to use.

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