

ETHICAL LEADERSHIP IN UTILIZING ARTIFICIAL INTELLIGENCE IN EDUCATIONAL MANAGEMENT: CHALLENGES AND THE WAY FORWARD

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ABSTRACT: The study was on ethical leadership utilizing artificial intelligence for educational management: challenges and the way forward, in public senior secondary schools in Gwagwalada Area Council, FCT, Abuja, Nigeria. Two research questions were raised for the study. Survey research design was applied by the researchers to sample the representatives from the population. The population was 641 teachers in public senior secondary schools in Gwagwalada Area Council FCT, Abuja, Nigeria (from Secondary Education Board, 2015). The sample of the study was 400 teachers (to assess the principals) sampled through random sampling technique. The instrument for the study was validated by experts in the Department of Educational Management, University of Abuja, Abuja, Nigeria. The reliability of the instrument was carried out by conducting a pilot study, test-retest method was used to collate data for analysis. The reliability coefficient index of 0.78 was obtained using Combrach alpha statistics. Mean statistics was used to analyse the research questions. The findings of the study proved that: the principals did not use ethical principles such as: transparency, accountability, inclusivity etcetera when

adopting AI to manage secondary education; principals faced many problems with the use of AI and that they did not adopt any leadership strategies to enhance ethical use of AI for educational management in public senior secondary schools in Gwagwalada FCT, Abuja. Based on the findings of the study the researchers recommended that principals should as a matter of necessity adopt ethical principles when utilizing AI for educational management in public senior secondary schools in Gwagwalada, FCT, Abuja.

Keywords: *Ethical Leadership, Artificial Intelligence, Educational Management, Ethical principals' leadership strategies.*

Introduction

The rapid adoption of Artificial Intelligence (AI) across education systems is transforming secondary school principals for the management of people, finances, learning data, assessment, and everyday administrative workflows. AI driven tools ranging from student information system analytics, automated timetabling, adaptive resource allocation platforms, individualized support, and data-driven decision making for educational leaders to predictive enrolment model promise efficiency gains. At the same time, these technologies surface moral and social risks (privacy intrusion, opaque decision-making, algorithmic bias, and unequal access) that can undermine educational values if left unchecked. Ethical leadership is a core requirement for any educational leader who introduces, governs, or uses AI systems, to check AI excesses.

Ethical leadership in the context of AI for educational management means that educational leaders intentionally align AI deployment with human centred values (student wellbeing, fairness, dignity), legal protections (data privacy, nondiscrimination), and institutional missions (equity, public accountability). Leaders must move beyond technical or cost-benefit framings to adopt frameworks that prioritize human agency, transparency, safety, and accountability when authorizing or overseeing AI systems. AI can be used for student monitoring, assessment moderation, resource allocation, or predictive analytics (Adeshina 2021). International guidelines and policy frameworks emphasize precisely AI re-centering

on human rights and democratic values in AI governance for education (European Union, 2024, Council of Europe, 2024 and OECD, 2019). AI systems used for educational administrative processes can create harm quickly because they operate often on sensitive personal data (student demographics, behaviour logs, performance records). Without principals' principled consent, algorithmic recommendations can entrench bias (for example in discipline, tracking, or resource distribution) and obscure consequential decisions. Stakeholders including teachers, students, parents and communities need educational leaders to translate abstract ethical principles into concrete policies, procurement standards, staff training, and monitoring routines so that AI tools can support rather than supplant human judgement. The trust that enables legitimate use of AI (acceptance by schools' staff through lawful data processing, regulatory compliance) depends on visible leadership actions such as in: transparent policies, meaningful explanations of automated decisions, and accessible of redress mechanisms when harms occur.

Core ethical priorities or principles for educational leaders implementing AI in educational management typically include: protecting privacy, minimising data collection to what is necessary; guarding against algorithm bias and ensuring fairness in outcomes. It also include; insisting on transparency, accountability, explaining the system behaviour, preserving human oversight, the right to contest automated decisions and attending to equity of access so that AI does not widen existing digital divides. Translating these priorities or principles into practice requires ethical leadership to determine whether AI becomes a tool that advances educational goals or a set of opaque systems that reify inequities and erode trust (UNESCO, 2021).

Educational leaders should be able to use AI to implement clear policies, ensure accountability in decision making, align AI with national and international regulations, engage staff in capacity building, promote digital literacy among teachers, students, parents (European Union 2025). Educational leaders should partner with technology experts, promote fairness and equity ensure learners AI accessibility, train staff in the use of AI tools and involve teachers and parents in AI decision making. These will to some extent ward of AI algorithmic biases. This can

be achieved because according to Oyital (2025) ethical leadership is the practice of leading by example in a manner that respects and adhere to ethical principles and practices. The leadership ethical values and practices are to ensure that decisions and actions are guided by moral values promote welfare of all stakeholders, and to abide by regulation. Adesina (2021) maintained that ethical leadership practices include but not limited to; fairness and equity, transparency and honesty, respect and empathy, integrity and trust worthiness, accountability and responsibility. Ethical decision-making in fostering a positive school culture, promoting social justice, leading by example, continuous self-reflection and growth, community engagement, involvement and supporting teachers' growth and development are all ethical leadership practices needed in schools. The researchers are motivated to carry out a study on ethical leadership in utilizing artificial intelligence in educational management: challenges and the way forward.

Ethical Leadership in the Use of Artificial Intelligence (AI) in Educational Management: Challenges and the way Forward

Ethical leadership is necessary to ensure that AI supports educational aims of equity, learning, wellbeing rather than undermining them through privacy breaches, opaque decision-making, or algorithmic bias. Ethical leadership considers rights, fairness, transparency and AI deployment must place leadership and governance at the heart of AI education. Ethical leaders should harness data to safeguard privacy, excessive data collection and application of weak procedures (U.S Department of Education, 2023; OECD, 2024). UNESCO (2021) emphasized that leaders especially ethical ones should adopt policies which emphasizes data minimization, lawful processing and accountability. Ethical leaders should add to ethical principles the practice that establish values like; fairness, accountability, human rights and concrete policies like the AI impact assessments, procurement clauses, and staff capacity-building (U.S. Department of Education, 2023; NEA, 2024). Sposato (2025) averred that ethical leaders should build capacity for themselves and other staff especially where technical expertise is limited. The researcher added that ethical leaders who apply AI principles should change them into policy, requiring algorithmic impact assessments. They should ensure human oversight and engage the will of the stakeholders,

institutionalized audit and monitoring processes. These actions will transform school operations into safeguarded human-centered mission.

Artificial Intelligence (AI) is increasingly transforming educational management through predictive analytics, automated admissions, learning analytics dashboards, and administrative decision-support tools. These technologies promise efficiency, personalization, and data-driven decision making. They also raise concerns about the challenging state of privacy, fairness, and transparency integration and biases in student assessment and resource allocation. Ethical leadership should be critical to ensure that AI is utilized to support institutional missions rather than undermining them (UNESCO, 2021; OECD, 2024). Without principled ethical governance, AI may entrench inequities and erode public trust in education systems (U.S. Department of Education, 2023).

AI systems may replicate or exacerbate existing challenging technology over reliance, sustainable update issues and inequalities, particularly when algorithms are trained on biased data. For instance, predictive tools may unfairly disadvantage minority or low-income students (OECD, 2023; OECD, 2024). For ethical leadership to proffer a way forward requires unbiased audits, representative datasets, that impact assessment to mitigate inequitable outcomes (NEA, 2024; NHSSC, 2025). They also must embark on ethical principles of transparency, accountability explainability, and contestability. Transparency refers to openness in decision making, resource allocation, communication with staff and stakeholders. Transparency should not only be a technical concern but should also be a governance responsibility tied to trust-building (IEEE, 2019). For the leaders to be ethical they should take accountability, responsibility, when making decisions on privacy, data protection, fairness, equity to reduce AI inequalities, and inclusivity. They should make AI tools to be accessible to all learners, by making them to focus on human centered approach and not to replace teachers' roles. They should exercise professionalism by making AI tools to align with educational values (UNESCO, 2021). These leaders are demanded for explainability, documentation, and avenues for appeal where automated decisions affect student progress or resource allocation (OECD, 2023; UNESCO, 2021).

For human oversight and professional judgement, Ugwushi (2017) maintained that educational administrators should play a pivotal role to maintain a culture of integrity in upholding judgments for human oversight. Spring-Open (2025) maintained that leaders should define boundaries for automation in making decisions not to replace AI with teachers' roles. AI in education should augment rather than replace professional judgement. Leaders play key roles in defining boundaries for automation, training of staff to interpret AI outputs, and to ensure human high-stakes decisions (MDPI, 2024). Without such safeguards AI risks will reduce educators to passive implementers of algorithmic recommendations.

For procurement, vendor accountability, and governance, ethical leaders should be custodians to public funds, in purchasing procurements, in data governance and in adherence to policy standards. They are to ensure that their actions, decisions and performance show accountability in schools administratively, orally and financially (Oyetunji, 2017). Since many AI tools are externally developed, procurement becomes a vital requirement to measure ethical leaders' transparency, auditability, and data governance in contracts, while establishing institutional oversight boards or ethics committees (OECD, 2024; MDPI, 2024). Such governance mechanisms ensure that ethical commitments are not left solely to vendors.

Statement of the Problem

The increasing integration of Artificial Intelligence (AI) into educational management presents both opportunities and challenges for administrators. AI-driven systems such as: predictive analytics, automated admissions, learning management platforms, and intelligent timetabling promise to improve efficiency in data-driven decision-making, and service delivery. However, these benefits are accompanied by profound ethical concerns including data privacy violations, algorithmic bias, lack of transparency, overreliance on automation, and the risk of marginalizing vulnerable learners. Ethical principles such as: fairness, accountability, and human oversight, to be translated into practice depends heavily on the ethical leaders' capacity to do so. Yet, empirical evidence indicates that many institutions lack clear governance structures, procurement guidelines, and capacity-building mechanisms to ensure that

AI deployment aligns with ethical standards (Polat, Karataş, & Varol, 2024; MDPI, 2024).

This leadership gap creates a pressing problem, without ethically grounded leadership, AI adoption in educational management may unintentionally reinforce inequities, compromise privacy, reduce human judgement, and erode public trust in educational institutions. Therefore, examining ethical leadership in utilizing AI for educational management to ensure human-centered, equitable, and accountable education system, is imperative.

Research Purpose

The study focused on ethical leadership in utilizing AI in educational management: challenges and the way forward. Specifically, the researchers want to:

1. Examine the ethical principles adopted by the education leader or principals to utilize AI in educational management in senior public secondary schools in Gwagwalada Area Council, FCT, Abuja.
2. Identify the challenges associated with the principals utilizing AI in educational management in public secondary schools in Gwagwalada Area Council, FCT, Abuja.
3. Investigate the leadership strategies used by the principals to promote ethical use of AI in educational management in public secondary schools in Gwagwalada Area Council, FCT, Abuja.

Research Questions

1. What are the ethical principles adopted by the educational leaders or principals to utilize AI in educational management in public secondary schools in Gwagwalada Area Council, FCT, Abuja.
2. What are the challenges associated with the educational leaders (principals) utilizing AI in educational management in public secondary schools in Gwagwalada Area Council, FCT, Abuja.

3. What are the leadership strategies used by the principals to promote ethical use of AI in educational management in public secondary schools in Gwagwalada Area Council, FCT, Abuja.

Methodology

The researchers applied survey research design to conduct the study. The research design enabled them to sample representatives from the population for the study. The population of the study was 644 teachers in public secondary schools in Gwagwalada Area Council, FCT, Abuja. The sample was 400 teachers (who assessed the principals) sampled through random sampling technique. Questionnaire on “Ethical Leadership in Utilizing Artificial Intelligence in Educational Management (ELUAIEM)” was used to collect data for the study analysis. The instrument was validated by experts in the Department of Educational Management, University of Abuja. The reliability of the questionnaire was carried out by conducting a pilot study, twenty teachers who were not part of the sample, responded to the questionnaire. Test-retest method was used to collate data for the analysis of reliability to obtain internal consistency. The reliability index of 0.78 was obtained using Combrach alpha statistics. Mean statistics was used to analyse the research questions. Mean scores of 2.50 and above were considered as agreed whereas 2.49 and below were adjudged as disagreed. Sectional mean score of 2.50 and above were considered as accepted, where as a sectional mean score of 2.49 and below were adjudged as rejected.

Data Analysis

1. Research Question One: What are the ethical principles educational leaders or principals adopt to utilize AI in public secondary schools in Gwagwalada Area Council, FCT, Abuja?

Table 1:*Ethical Principles Educational Leaders Adopt when utilizing AI**N=400*

S/N	Items	SA	A	D	SD	\bar{x}	Decision
Ethical principles' adopted by my principals when utilizing AI were:							
1	Transparency to ensure AI tools are understandable to teachers and other education stakeholders.	60	67	126	147	2.1	Disagreed
2	Fairness and equity to make AI systems reduce inequalities.	50	66	150	134	2.08	Disagreed
3	Accountability to take responsibility when making decisions.	30	70	146	154	1.94	Disagreed
4	Privacy and data protection.	55	30	160	155	2.05	Disagreed
5	Inclusivity, making AI accessible to all learners.	70	80	170	80	2.35	Disagreed
6	Human centered approach to support and not to replace teachers' roles.	50	70	140	140	2.08	Disagreed
7	Professional integrity in making AI tools align with educational values.	140	120	85	55	2.87	Agreed
8	Safety and security measures to protect students from harmful contents	100	98	165	37	2.65	Agreed
9	Sustainability ensuring that AI adoption has long-term effects to enhance learning environment.	50	66	167	114	2.12	Disagreed
10	Regular monitoring of AI tools to ensure accuracy, fairness and educational values.	30	67	170	133	1.99	Disagreed
Sectional mean						1.94	Rejected

The table above proved that the respondents with the mean scores of 2.10, 2.08, 1.94, 2.05, 2.35, 2.08, 2.12, and 1.99 disagreed that principals adopted ethical principles to utilize AI to incorporate: transparency to ensure AI tools are understandable to teachers and other education stakeholders; fairness and equity to make AI systems to reduce inequalities; accountability to take responsibility when making decisions, privacy and data protection; inclusivity, making AI accessible to all learners; human centered approach to support and not to replace teachers' roles, sustainability ensuring that AI adoption has long-term effects to enhance learning environment, regular monitoring of AI tools to ensure accuracy, fairness and educational values. The respondents with the mean scores of 2.87 and 2.65 agreed that principals adopted ethical principles to utilize AI to incorporate: professional integrity in making AI tools align with educational values, and safety and security measures to

protect students from harmful contents. All the respondents with the sectional mean score of 1.94 rejected that education leaders adopted ethical principles to utilize AI. In conclusion the study finding proved that educational leaders did not adopt ethical principles to utilize AI in educational management in public secondary schools in Gwagwalada, FCT, Abuja.

Research Question Two: What are the challenges associated with the principals utilizing AI in educational management in public secondary schools in Gwagwalada Area Council, FCT, Abuja.

Table 2:

Challenges Associated with the Principals in utilizing AI in Educational Management

N=400

S/N	Items	SA	A	D	SD	\bar{x}	Decision
	My principals did not face challenges in Utilizing AI due to :						
1	high cost of implementation of AI tools.	50	65	158	127	2.1	Disagreed
2	staff resistance to change.	100	96	170	34	2.66	Agreed
3	over-reliance on technology.	60	70	111	159	2.47	Disagreed
4	integration challenges.	70	66	140	130	2.22	Disagreed
5	sustainability of update issues.	30	80	127	163	1.94	Disagreed
6	Lack of technical expertise.	100	70	110	120	2.38	Disagreed
7	Reinforcement of existing biases in Students' assessment, discipline, and resource allocation.	44	140	170	46	2.46	Disagreed
Sectional mean						2.26	Rejected

The above table revealed that the respondents with the mean scores of 2.10, 2.47, 2.22, 1.94, 2.38 and 2.46 disagreed that the principals did not face challenges in utilizing AI in educational management such as: high cost of implementation of AI tools, over-reliance on technology, integration challenges, sustainability of update issues, lack of technical expertise and reinforcement of existing biases in students' assessment, discipline, and resource allocation. With the mean score of 2.66 the respondents agreed there was no staff resistance to change. All the respondents with the sectional mean score of 2.26 rejected that there were no challenges associated with the principals utilizing AI in educational management. The finding of the study proved that there were challenges such as: high cost of implementation of AI tools, over-reliance on technology, integration challenges, sustainability update issues etcetera associated with the principals use of AI in educational management in public secondary schools in Gwagwalada Area Council, FCT, Abuja.

Research Question Three: What are the leadership strategies to promote ethical use of AI in educational management in public secondary schools in Gwagwalada Area Council, FCT, Abuja.

Table 3:

Leadership Strategies to Promote Ethical use of AI in Educational Management.

N=400

S/N	Items	SA	A	D	SD	\bar{x}	Decision
My principal promoted ethical use of AI by:							
1	Developing clear policies.	60	67	126	147	2.1	Disagreed
2	ensuring accountability in decision making.	50	66	150	134	2.08	Disagreed
3	Aligning with national and international regulations.	30	70	146	154	1.94	Disagreed
4	Engaging staff in capacity building development or building	55	30	160	155	2.05	Disagreed
5	Promoting digital literacy among teachers, students and parents.	70	80	170	80	2.35	Disagreed
6	Partnering with technology experts.	50	70	140	140	2.08	Disagreed
7	Promoting fairness and equity.	140	120	85	55	2.87	Agreed
8	Ensuring learners AI accessibility.	100	98	165	37	2.65	Agreed
9	Making plan for fund to train staff in the usage of AI devices.	50	66	167	114	2.12	Disagreed
10	Involving teachers and parent in AI decision making.	30	67	170	133	1.99	Disagreed
Sectional mean						1.94	Rejected

The table proved that the respondents disagreed with the mean scores of 2.10, 2.08, 1.94, 2.05, 2.35. 2.08, 2.12, and 1.99 that principals utilized leadership strategies to promote ethical use of AI in educational management by: developing clear policies; ensuring accountability in decision making; aligning with national and international regulations; engaging staff in capacity development or building, promoting digital literacy for teachers, students and parents, partnering with technology experts, promoting fairness and equity, ensuring learners AI accessibility, making plan for fund to train staff in the use of AI devices and involving teachers and parent in AI decision making matters. Also respondents with the mean scores of 2.87 and 2.65 agreed that principals utilized leadership strategies to promote ethical use of AI in educational management by: promoting fairness, equity and ensuring learners AI accessibility. All the respondents with the sectional mean score of 1.94 rejected that

principals utilized leadership strategies to promote ethical use of AI in educational management. In conclusion the study finding proved that the principals did not utilize leadership strategies to promote ethical use of AI in educational management by not: developing clear policies, ensuring accountability in decision making, aligning with national and international regulations etcetera in public secondary schools in Gwagwalada Area Council, FCT, Abuja.

Discussion of Findings

The first finding in this study proved that educational leaders did not adopt ethical principles to utilize AI in public secondary schools in Gwagwalada, FCT Abuja. The UNESCO (2021) report has emphasized that educational leaders should utilize ethical principles such as: protection of privacy and minimizing data collection to what is necessary, and to guide against algorithm biases. The report maintained that the principals should ensure fairness, transparency, accountability and explainability of system behaviour, presenting human oversight and the right to contest automated decisions, the education leaders should also ensure equity of access so that AI does not widen existing digital divides. The report emphasized that translating these principles to practices will ensure that AI becomes a tool that advances educational goals. The report further emphasized that the educational leaders must apply AI principles in the educational management in order to achieve the set objectives and goals in educational system.

The second study funding revealed that the principals faced several challenges in utilizing AI in managing schools. OECD (2023) and OECD (2024) study corroborated with the present study finding the study listed some of the challenges the principals faced in incorporating AI in educational management to include: lack of privacy, transparency, integration challenges, reinforcement of existing bias of students data, resources allocation, technology over reliance, sustainable update issues and inequalities due to biased data collection. To this effect (NHSS, 2025) and NEA (2024) emphasized that leaders especially ethical ones should maintain unbiased audits, representative data sets that will impact assessment to mitigate inequitable outcomes.

Finally, the finding of this study proved that the principals did not utilize leadership strategies to promote ethical use of AI in educational management by: developing clear policies, ensuring accountability in decision making, aligning with national and international regulations etcetera. European Union (2024) report has emphatically stated that one of the strategies of leaders ensuring ethical use of AI is by the principals adopting and practicing international guidelines and policy frameworks on AI. This guidelines and policy centers on human rights and democratic values in AI governance for education.

Recommendations

Based on the findings of the study the researchers recommended that:

1. Principals should as a matter of necessity adopt ethical principles when utilizing AI principles These principles will help them to be efficient effective, and competent in expediting their duties to achieve expected goals when managing public secondary schools in Gwagwalada Area Council, FCT, Abuja.
2. Principals have to take cognizance of the challenges they faced in using AI in school management and consult individuals from different scholastic sources to get solutions to the challenges of managing education in public secondary schools in Gwagwalada Area Council, FCT, Abuja.
3. Principals have to apply scientific scholarly proffered solutions such as; using leadership ethical acceptable strategies to promote the use of AI in educational management by developing clear policies ensuring accountability in decision making, aligning with national and international regulations etcetera in educational management in public secondary schools in Gwagwalada Area Council,

Conclusion

The study concluded that educational leaders or principals did not adopt ethical principles when utilizing AI in public secondary schools in Gwagwalada, FCT, Abuja, Nigeria. These educational leaders did not also utilize leadership strategies to promote ethical use of AI in educational management nor solve the problems they

faced in adopting and utilizing AI in educational management in public secondary schools in Gwagwalada, FCT, Abuja.

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