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ARTIFICIAL INTELLIGENCE AND ETHICAL USAGE AMONG LIBRARY AND INFORMATION SCIENCE STUDENTS IN NIGERIA

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Abstract

This study explored the responsible use of Artificial Intelligence among students of LIS education in higher institution of learning. AI has permeated every aspect of life and all disciplines. The usage of AI also comes with certain risks like biases, data privacy issues, overreliance, academic dishonesty etc. To this regard, Library and Information Science as a discipline promotes the responsible use of information. And this is no different even in this present era AI. However, most people are unaware of such risks especially in the academia. Many students are getting over reliant in the use of AI and gradually unable to use their critical thinking abilities. This study is being carried out to ascertain students use of AI, their awareness on the responsible use of AI as well as challenges militating against promotion of the responsible use of AI. The study is a part of an ongoing project as such, it employed the review of literature as its method, articles were selected using objectives of the study and analysed using content analysis. Findings showed that students use artificial intelligence in doing their academic tasks, however most are not aware of the risks posed by using AI tools, majority lacked competency in using AI tools responsibly. Many lecturers as well lacked competency in the use of AI as such unable to promote responsible use to their students. The study recommended that information ethics and the responsible use of AI and related tools should be embedded in the LIS curriculum especially in higher institution of learning and lecturers to be trained continuously on how to use and promote responsible use of AI among their students.

Keywords: Artificial intelligence, information ethics, LIS education, ethical use of AI tools, higher education, LIS students

Introduction

Artificial Intelligence (AI) has become one of the most transformative technologies of the twenty-first century, significantly influencing education, research, and information services globally. In Library and Information Science (LIS), AI has redefined information organization, retrieval, dissemination, and preservation through applications such as intelligent information retrieval systems, natural language processing, chatbots, machine learning, automated cataloguing, and digital repositories. The integration of AI tools into higher education has equally transformed the academic experiences of students by enhancing learning outcomes, promoting personalized education, and improving research productivity. Contemporary AI applications, including generative AI technologies, have become indispensable tools for literature searching, academic writing assistance, reference management, language translation, and data analysis among university students worldwide.

In Nigeria, the adoption of AI technologies among university students has increased substantially due to the proliferation of internet-enabled devices and the availability of accessible AI platforms. Library and Information Science students are increasingly utilizing AI-powered tools to support academic activities such as assignment preparation, project writing, information retrieval, plagiarism detection, and scholarly communication. AI applications provide opportunities for developing critical information literacy competencies necessary for future information professionals. Given that LIS professionals serve as custodians of information ethics, intellectual property rights, and responsible information practices, understanding the ethical dimensions of AI usage among LIS students has become increasingly important.

Ethical usage of AI extends beyond merely employing technological tools for academic purposes. It encompasses responsible practices relating to transparency, academic integrity, privacy protection, copyright compliance, proper attribution, bias awareness, and the avoidance of plagiarism and misinformation. International organizations have emphasized the importance of ethical AI adoption within educational institutions. The United Nations Educational, Scientific and Cultural Organization (UNESCO) recommend that AI technologies in education should promote

human rights, transparency, accountability, and inclusiveness while safeguarding learners from unethical practices (UNESCO, 2023). Similarly, the Organisation for Economic Co-operation and Development (OECD) advocates' responsible AI usage founded upon principles of fairness, explainability, robustness, and accountability (OECD, 2024).

Within Library and Information Science education, ethical AI usage possesses unique significance because LIS students are future librarians, information managers, knowledge professionals, and digital literacy advocates. Their professional responsibilities will include educating users on information ethics, combating misinformation, protecting intellectual property rights, managing digital information systems, and promoting responsible information behavior. Consequently, their understanding and application of ethical AI principles during their academic training directly influence future professional practices.

Artificial Intelligence (AI) has come to stay with all the impactful changes that comes with it thanks to the Fourth Industrial Revolution (4IR) (Cox, 2022). American Library Association (2019) refers to Artificial Intelligence as "the ability to create machines that act and "think" like humans through deep learning, machine learning and natural language processing". This definition aligns with Akgun and Greenhow (2022) who also defined Artificial Intelligence as "technology that creates systems with human-like thought processes and goal-achieving abilities". Aside from advancing technology, artificial intelligence reshaped educational sector by offering personalised learning experience while supporting diverse needs (Walter, 2024).

Despite the numerous advantages of AI technologies, their inappropriate use presents significant ethical concerns. The misuse of generative AI tools has been associated with academic dishonesty, plagiarism, fabrication of references, intellectual property violations, overdependence on automated systems, and privacy breaches. Recent studies indicate that university students frequently employ AI-generated content without appropriate disclosure or critical evaluation, thereby undermining academic integrity and independent learning

(Kasneci et al., 2023; Cotton, Cotton, & Shipway, 2024).

Furthermore, AI systems may generate inaccurate or fabricated information, popularly referred to as "hallucinations," thereby necessitating information verification competencies among users.

The Nigerian higher education system has equally begun experiencing challenges associated with unethical AI utilization. While AI technologies offer unprecedented opportunities for enhancing teaching, learning, and research, concerns relating to plagiarism, examination malpractice, copyright infringement, misinformation dissemination, and inadequate institutional policies remain prominent. Many universities are yet to establish comprehensive guidelines governing AI usage among students, thereby creating ethical ambiguities regarding acceptable practices within academic environments.

Library and Information Science students occupy a strategic position in addressing these emerging challenges because their professional education emphasizes information ethics, information literacy, intellectual property management, and digital competencies. Their ethical engagement with AI technologies will significantly influence future library services and scholarly communication practices in Nigeria. Therefore, examining Artificial Intelligence and ethical usage among LIS students in Nigeria is both timely and necessary for promoting responsible technological innovation and academic excellence within higher education institutions. Artificial intelligence involves numerous functionalities like understanding natural language, recognising patterns, and making decisions, which is achieved through various approaches like rule-based systems, expert systems, and more advanced methods such as machine learning and deep learning (Nguyen et al, 2024)

Artificial Intelligence cut across all walks of life, most especially in the academic environment the use of AI is popular among both learners and faculty members (EDUCAUSE, 2018). The development of Artificial Intelligence created opportunities and support for teaching and learning opportunities for learning and teaching (Zawacki-Richter et al, 2019). However, total dependence on AI tools by students is casting a shadow on the benefit of AI, because students' ability to think creatively is beginning to be affected (Zhu, Sun, Li et al 2023; Habibulloh, 2025; Zawacki-Richter et al, 2019). Most students most look for easy way-out using AI Tools like

ChatGPT, DeepSeek etc to advance their writing skills which in turn reduces their critical thinking and give them unfair advantage over others (Al-Gbawi, 2024). These implications found with the use of Artificial Intelligence (AI) amounts to ethical challenges and bias in the use of information (Ma et al, 2025; Huang, Samek & Shiri, 2021).

Ethics is a branch of philosophy that involves systematizing, defending, and recommending concepts of right and wrong conduct (Internet Encyclopaedia of ethics, 2013). In terms of the use of information, Information ethics serve as a morally guiding principle dedicated to negotiating the moral terrain between emerging information and communication technologies (Burgess & Knox, 2019). Over the years, information ethics became central to library and information science as they champion cases of privacy, access to information, copyright, fair use, codes of ethics etc. It is only fair in this present dispensation that LIS educators inculcate the right ethical use of Artificial Intelligence in their students, who are leaders of tomorrow, to create awareness and learn to use information responsibly to guide others in the future society (Anyanwu et al, 2025). This can enhance their learning experience, support their academic success and to develop essential skills in the digital age (Yadav, 2024). It is based on this understanding that this study will be undertaken to explore the awareness of information ethics in the use of AI and to examine the steps Library and Information Science Educators are taking to inculcate responsible use of AI among their students in Library and Information Science Departments of Federal University of Lafia and Isa Agwai Polytechnic Lafia, Nasarawa State Nigeria.

Background of the Study

Information ethics as noted by BINUS University (2022) involves the ethical and moral issues arising from the development and use of info technologies, as well as the creation, duplication, processing and distribution of information itself. Information ethics covers moral issues that arise from the implementation of new information and communication technologies (Burgess & Knox, 2019). It goes beyond the rightful use of information and communication technologies, but the understanding of the ethical dimensions of information systems and technologies. It is not easy to determine what is moral, and moral and ethics are often used alternatively. Latin word *moralis* means proper social behaviour, and the Greek *ēthikós* means practicing moral character

(Burgess & Knox, 2019). Information ethics resides within the subdiscipline of moral philosophy. Moral philosophy is concerned with the philosophical study of the good.

Beck and Sznaider (2006) argued that although it is not possible for nations worldwide to assume ownership of networked information systems, religion or culture, however people can collectively accept that irrespective of differences are all connected and should be respected. Information ethics over the years has been embedded in Library and Information Science (LIS) as a discipline; though it has spread to other disciplines overtime (Froehlic, 2004). In the United States of America, history of information ethics revolved around librarianship and computer science spanning over 20 years. It focused in areas like censorship, privacy, access to information, balance in collection development, copyright, fair use, codes of ethics etc. These issues were not wholly discussed but only in relations to other library challenges. With time, information ethics developed over the years from being associated with computer science to being solely related to librarianship through their common concern with other disciplines over issues of credibility with the emergence of World Wide Web (Froehlic, 2004). That is in terms of assessing, evaluating the credibility of information from websites.

Statement of the Problem

Artificial Intelligence technologies have transformed educational practices across universities globally, offering students unprecedented opportunities for enhancing learning experiences, conducting research, and accessing information resources. Nigerian university students are increasingly utilizing AI applications such as generative AI systems, intelligent search engines, virtual assistants, and automated writing tools for academic purposes. While these technological innovations provide significant educational benefits, their increasing adoption has generated substantial ethical concerns within higher education environments. Among Library and Information Science students, AI technologies possess particular relevance because of their future professional obligations relating to information management, digital literacy instruction, intellectual property protection, and information ethics advocacy. Consequently, ethical competence in AI utilization represents an essential professional requirement for LIS graduates. However, anecdotal evidence suggests that many students employ AI tools without adequate understanding of ethical principles

governing their responsible usage. Practices such as presenting AI-generated content as original work, failure to acknowledge AI assistance appropriately, reliance on fabricated references, and copyright violations continue to undermine academic integrity within tertiary institutions.

Additionally, many Nigerian universities lack comprehensive institutional policies regulating AI usage among students. Existing academic integrity frameworks were primarily developed before the emergence of contemporary generative AI technologies and may inadequately address current ethical challenges. Consequently, students frequently encounter uncertainties regarding acceptable and unacceptable AI practices within academic environments. The absence of standardized guidelines further complicates efforts to promote responsible AI adoption across higher education institutions.

Furthermore, limited empirical studies have specifically examined ethical AI usage among Library and Information Science students in Nigeria despite their strategic role as future information professionals. Existing literature predominantly focuses on technological adoption, digital literacy competencies, or general student populations without adequately addressing ethical dimensions associated with AI utilization among LIS students. This gap limits institutional efforts aimed at developing appropriate educational interventions and policy frameworks for promoting ethical AI practices.

Therefore, there is a compelling need to examine Artificial Intelligence and ethical usage among Library and Information Science students in Nigeria with particular emphasis on understanding ethical awareness, responsible utilization practices, associated challenges, and institutional support mechanisms necessary for fostering ethical AI adoption within LIS education.

Research Objectives

This study was undertaken to explore students' awareness and use of ethics while employing the use of artificial intelligence in higher institution of learning in Nigeria. The Research objectives are:

1. To explore LIS students' engagement in the use of Artificial Intelligence by for academic purpose in higher institutions of learning in Nigeria
2. To ascertain the level of awareness in responsible use of artificial intelligence for academic purpose among LIS students

3. To determine how responsible use of AI is promoted by LIS education
4. To identify some barriers affecting the promotion of the responsible use of AI in higher institution of learning Nigeria.

Methodology

This study, being part of an ongoing project, is based on literature review, which is a way of collecting and synthesizing previous research which, when done effectively, creates a firm foundation for advancing knowledge and facilitating theory development (Snyder 2019). Literature reviews in essence can give more insights into prior work done in a field, thus enabling easy identification of gaps in the body of literature and potential avenues for future research (Kraus et al 2022). The data in the study were analysed using content analysis, which according to Ary et al (2014) involves the analysing and interpreting of recorded materials comprising of documents, themes, textbooks, reports, websites etc. Search strategy as based on the study's objectives, articles related to engagement in the use of Artificial Intelligence by LIS students for academic purpose in higher institutions of learning, awareness in ethical use of AI among students, promotion of responsible use of AI and challenges confronting the promotion of the ethical or responsible use of AI among students.

Literature Review

The literature review covered a theoretical framework on the responsible use of AI.

The literature review is equally guided by the objectives of the study which include engagement and use of artificial intelligence for academic purpose by LIS students, awareness on responsible use of AI by students and barriers affecting the promotion of the responsible use of AI in higher institution of learning Nigeria.

Theoretical Framework /Conceptual Framework

The advancements in Information and Communications Technologies (ICTs) brought emergence of an Information Society which in turn leave questions as to what is right or wrong (Hog,2012). Artificial intelligence (AI) is increasingly taking centre stage in various sectors of society and therefore the need addresses several ethical issues like privacy breaches, data security risks, and the widening digital divide becomes top priority (Yang, Xie & Ni, 2025). This has prompt educational institutions like Harvard University to introduced AI ethics curriculum with the goal to cultivate individuals with ethical competencies in AI through various academic research endeavours (Kwon, 2024). The ability of students or lecturers to be original in their research is becoming a challenge (Llerena-Izquierdo & Ayala-Carabaj, 2025). To this end this study will adopt a responsible AI literacy model by Ma et al, (2025). This model unlike others existed before, it examines how ethics in the use of AI impacts students' long term ethical awareness, their critical thinking, and sense of responsibility while interacting with AI anywhere. All of which captured the essentials of this present study.

The Responsible AI Framework

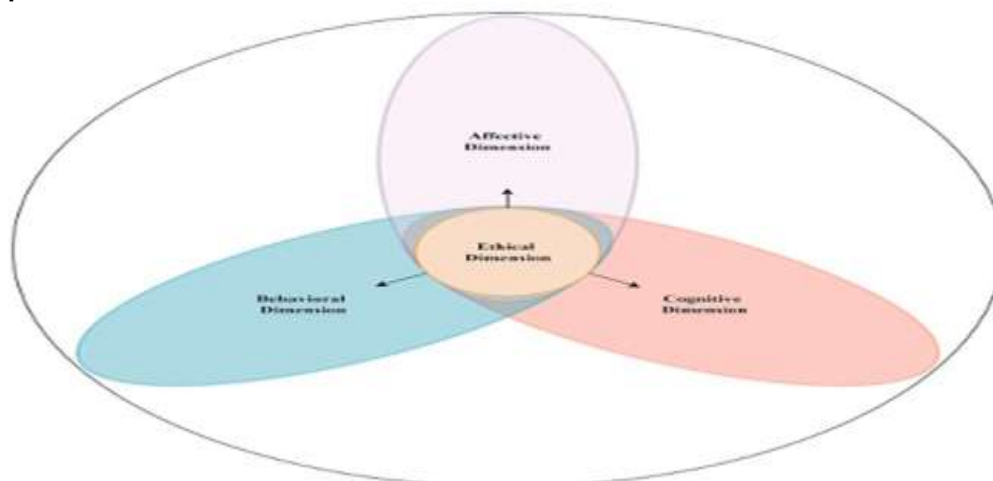


Figure1. Source Ma, Ng, Liu & Wong (2025).

Ma et al. (2025) opined that students interact with AI not just within the classrooms but also outside. From interaction with AI on social media networks, using AI for home assignment to chatbots etc. all create challenges in ethical use. It is essential to understand moral responsibilities in examining their motives. There have been challenges in the best approach in exploring students' ethical development through analyses of projects, observations and interviews in understanding their inner value like respect, transparency, and fairness into their learning processes, which required a method to assess and enhance students' ethical behaviour so that researchers and educators can understand their ethical reasoning.

Ma et al (2025) then proposed a model, a reconceptualising AI ethics as a transformative dimension across learning domain. The framework ensures ethical consideration are embedded in all AI literacy development which enables students to engage responsibly with AI principles while acquiring technical skills and knowledge.

Students' Engagement with Artificial Intelligence

Villaver and Cabigas (2025) carried on a study on junior high school students, to investigate learning engagement with AI tools and academic performance. The study used a descriptive correlational and causal research design. The study found out that AI tools enhanced deep learning with better educational experiences. Although the study in its recommendation discouraged students' overreliance on AI tools. In their study, Nguyen et al, (2024) highlights several opportunities and advantages that comes with the use of AI in education like interactive teaching aid that give personalised feedback to students to improve their learning, personalised learning that customises experience of individual learner to meet their educational needs etc.

Crawford et al (2023) on the other hand in their study identified the growing trend in manufactured authorship and lack of academic integrity in higher institution of learning because of growing AI tools like ChatGPT, chatbots and so on. The study recommended transparency and accountability among researchers, students inclusive in the use of AI tools. Donatus et al. (2024) in their study posited that teachers have important role to play in ensuring their students develop critical thinking skills when interacting with artificial intelligence tools. To this end recommend that teachers and

educators familiarize themselves with their teaching and curriculum strategies.

Awareness in the Ethical Use of AI among LIS Educators and their Students

In a study on the awareness, perception and use of AI tools by LIS educators in Nigerian institution of higher learning, Bolanle (2024) noted that while there is high level of awareness on the of artificial intelligence tools among LIS educators in Nigerian institution of higher learning, implementation is minimal because of incompetency, lack of required skills using AI tools. It recommended training on the use of AI for LIS educators.

Another study by Ho and Li (2025) that explored teachers' ethical awareness in the use of AI tools in education, observed that though some teachers utilise AI tools but have little knowledge on its implications. Meaning they have no knowledge on its ethical complexities. Ramos (2025) observed that while student respondents in his study recognised the advantages of AI and showed awareness in practicing ethics while using AI tools, the study identify risks of AI misuse, erosion in academic integrity, confusion in terms of authorship, intellectual ownership as well as disadvantages in students with limited access to the AI tools.

Promotion of Responsible Use of AI by LIS Education

The advent in the use of AI tools within the libraries necessitated the teaching of the ethical use of AI among their students expected to work in the future within libraries (Morris & Malady, 2025). This opinion is mirrored by Adebola and Olaninhun (2025) that believed for Nigerian LIS educators to remain relevant, it is paramount that they graduate students capable of thriving in AI driven world. Meaning the students must be proficient and digitally competent in using AI appropriately.

Michalak (2024) posit the need to equip students with the right ethical equipment to give them better chances of handling biases that comes with use of generative AI tools in academic research. Several library schools and libraries outside Nigeria like University of Wisconsin–Madison Information School, National Library of Medicine, University of Arizona University Libraries etc. have engaged in organising seminars and workshops geared towards responsible use of AI i.e. AI competency (Morris & Malady, 2025). This is to help tackle misinformation and disinformation that comes with AI.

Mabera (2025) noted that libraries play significant role in promoting responsible AI use in higher education of learning as well as in enhancing the understanding of its ethical implications to their users. This showed that the mandate of promoting responsible use of AI is not only championed by LIS educators but LIS practitioners as well. Morris and Malady (2025) further argued that since information literacy is embedded in LIS curriculum, then ethical use of AI can equally be fused into patron services and instruction. As that will go a long way in assisting them to develop ethical way of using AI in librarianship.

Barriers that Affect the Promotion of Responsible Use of AI in Nigerian Higher Institution of Learning

Barriers can be said to be factors that affect things negatively. Kamak et al (2024) noted that the absence of academic impact of AI tools in learning and teaching is a barrier to its adoption in higher education. Meaning the ethical use the AI tools might not even be encouraged when the impact of the tools is not even known. Limited access to AI tools on the part of educators can militate against their promotion of the ethical usage (Asamoah & Amarteifio, 2025). This because for educators to be able to successfully encourage responsible use of AI, they must be adequately equipped with required skills and competency in AI tools as well as having full access to necessary infrastructures.

Tait and Pearson (2022) on their part argued that the LIS profession keep changing to adapt to technological changes as such there are debates as to which direction the changes should be, Further still curricula must reflect those changes, making it mandatory to have the necessary skills for LIS professionals and the LIS course to be able to claim the jurisdiction. For example, additional skills with focus on digital literacy and instructional design can strengthen with inclusion of information ethical principles (Burgess & Knox, 2019). Mabera (2025) posited that in Nigeria, there is no clear national policies and regulations, and this leads to challenges in adopting responsible use of AI in higher institution of learning thereby causing uncertainty on the ethical usage.

Discussion and Finding

The aim of this article was to to explore LIS students' awareness and responsible use of artificial Intelligence in Higher Institution of Learning in Nigeria. The study found that while most students make use of AI tools to carryout academic task, their ability to recognise the need

to use AI responsibly mostly lies with their lecturers. Who according to Donatus et al (2025) have responsibility in ensuring their students develop critical thinking skills when interacting with artificial intelligence tools. Unfortunately, most lecturers in Nigeria although aware of the need to use AI responsibly lack the required knowledge, skills and competency in use of AI. As such are incapable of promoting the responsible use. This is supported by Ho and Li (2025) that noted some lecturers have limited idea on how to use AI responsibly as such by implication they cannot guide their students or promote the ethical usage. However, findings showed some libraries to be proactive in the promotion of the responsible use of AI among their users in higher institution of learning (Morris & Malady, 2025; Mabera, 2025). Meaning both LIS practitioners and educators can team up to promote the responsible usage; it is not necessarily rested on some specific individuals in the profession.

The study also showed that major challenge in the promotion of responsible use of AI lies in the fact that Nigeria has no clear national policies and regulations in AI usage and that is in terms of adopting responsible use of AI (Manera, 2025). This needs to be addressed nationally to avoid risk and biases that comes with the use of AI. It was also revealed in the study that many Lecturers have limited skills and competence in the use of AI and that makes it difficult for them to promote responsible use among their students (Asamoah & Amarteifio, 2025; Bolanle, 2024). This calls for serious review on AI training among lecturers of LIS and other disciplines in higher institution of learning. As Morris and Malady (2024) rightly pointed out that information literacy is embedded in LIS curriculum, as such the responsible use of AI in LIS education must also take centre stage with the proliferation of AI across all sectors of the society.

Conclusion

Artificial Intelligence technologies have become indispensable components of contemporary higher education and professional information practice. Their applications offer Library and Information Science student's significant opportunities for improving academic performance, developing digital competencies, enhancing information retrieval capabilities, and facilitating scholarly communication. As future information professionals, LIS students possess critical responsibilities for promoting ethical information practices within increasingly digital and AI-driven societies.

However, the transformative potential of AI technologies can only be fully realized when their utilization is guided by principles of responsibility, transparency, accountability, and academic integrity. Ethical challenges relating to plagiarism, copyright infringement, misinformation, fabricated references, privacy concerns, and overdependence on automated systems necessitate deliberate educational interventions within Library and Information Science programmes.

Promoting ethical AI usage among LIS students requires collaborative efforts involving universities, educators, professional associations, policymakers, and students themselves. Integrating AI ethics into LIS curricula, establishing institutional guidelines, strengthening digital and information literacy competencies, and fostering responsible technological engagement will significantly contribute toward preparing ethically competent information professionals for Nigeria's evolving knowledge economy.

Artificial Intelligence has come to stay as such efforts must be made to ensure the promotion of its responsible usage should be carried out frequently in all the disciplines especially the LIS. As they serve as the forerunners in the ethical use of information and AI tools. To this regard they should be able to produce AI compliant graduates capable of using the tools competently.

Recommendations

The following recommendations are proposed:

1. Nigerian universities should develop comprehensive institutional policies and guidelines governing ethical Artificial Intelligence usage among students and academic staff.
2. Library and Information Science departments should integrate AI ethics, responsible AI practices, and information literacy competencies into undergraduate and postgraduate curricula.
3. Students should be encouraged to disclose AI assistance appropriately in academic works where institutional policies permit such usage.
4. Universities should organize periodic workshops and seminars focusing on ethical AI utilization, academic integrity, and responsible scholarly communication.
5. Professional library associations should develop ethical frameworks and best practice guidelines specifically addressing

AI applications within Library and Information Science education and practice.

6. Academic libraries should establish AI literacy programmes aimed at educating students on information verification, copyright compliance, citation practices, and misinformation detection.
7. Institutions should deploy plagiarism detection and AI-assisted content evaluation mechanisms alongside educational approaches that emphasize responsible usage rather than punitive measures alone.
8. Further empirical studies should investigate factors influencing ethical AI adoption among Library and Information Science students across diverse institutional contexts within Nigeria.
9. Just like information ethics, responsible use of Artificial intelligence be embedded in the LIS curriculum
10. Academic staff especially in LIS school be continuously trained on the use of AI
11. LIS practitioners should also be trained and they in turn hold monthly orientation for their users in the responsible use of AI to promote academic integrity

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