RESPONSIBLE USE OF GENERATIVE ARTIFICIAL INTELLIGENCE (AI) IN NIGERIAN SCHOOLS

A Guide for School Leaders & Educational Administrators

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Published in May, 2025

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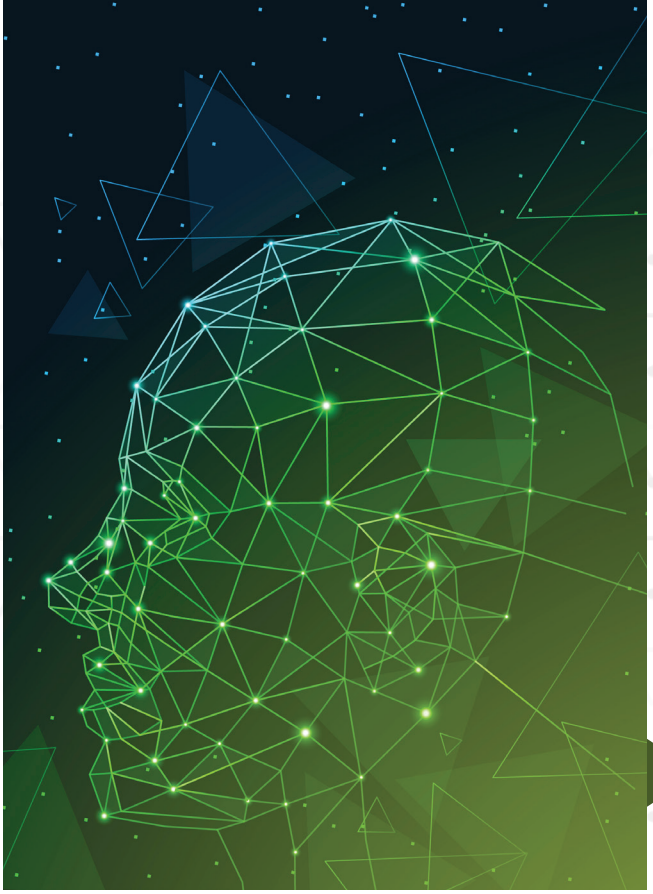

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Nigeria's education sector is experiencing rapid digital transformation, and generative AI tools are already finding their way into classrooms and administrative processes. However, without clear, context-specific guidance, their use risks deepening inequalities, compromising data privacy, and undermining academic integrity. This guidance note is essential to help schools harness AI's potential responsibly and effectively. It supports educators and administrators in making informed decisions, aligning AI use with national education goals and ethical standards. By promoting equity, safety, and relevance to Nigeria's diverse cultural and linguistic context, the guidance ensures that AI becomes a tool for empowerment in the hands of teachers and school leaders, not disruption, in education.

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ABOUT THIS GUIDE

INTRODUCTION

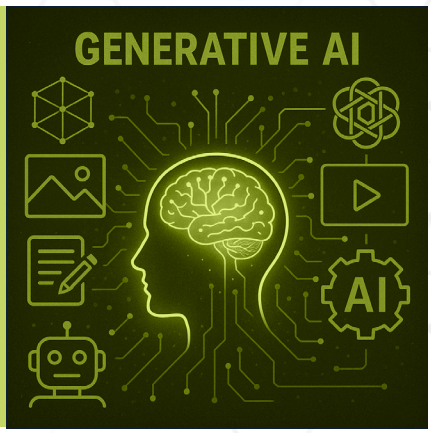
This guide has been developed to assist Nigerian schools in understanding and navigating the fast-evolving landscape of generative Artificial Intelligence (GenAI) in education. It provides practical advice and strategic direction for teachers, school leaders, and education administrators who are exploring how to use GenAI tools responsibly in the classroom and across school systems.

In recent years, GenAI tools — such as ChatGPT and image generators — have rapidly entered educational environments around the world. These tools offer powerful new ways to support lesson planning, enhance student engagement, streamline school administration, and personalize learning experiences. However, their adoption also raises important questions around ethics, fairness, data privacy, academic integrity, and the overall role of human educators.

Drawing from international best practices and grounded in Nigeria's unique educational realities, this guide aims to equip schools with a clear, culturally relevant framework for the ethical, inclusive, and effective integration of GenAI technologies. It is especially tailored to address local challenges, such as otvercrowded classrooms, limited teacher resources, and disparities in access to digital tools, while also helping schools harness GenAI's potential to improve quality, equity, and innovation in education.
The guidance is anchored in a human-centred approach. It emphasises:

- **Human agency:** ensuring that GenAI supports — rather than replaces — the critical roles of teachers, school leaders, and learners.
- **Inclusion and equity:** promoting equal access to AI benefits and counteracting bias in GenAI tools.
- **Cultural and linguistic relevance:** encouraging the use of tools that reflect Nigeria's diverse heritage, languages, and values.
- **Ethical awareness:** supporting responsible decision-making, transparency, and respect for learners' rights and privacy.

UNDERSTANDING GENERATIVE AI



Generative AI (GenAI) refers to AI systems capable of creating new content, such as text, images, music, and code, based on patterns learned from vast amounts of training data. Unlike previous AI systems that might analyze data or follow explicit instructions, GenAI models learn to generate novel outputs that can appear impressively human-like.

While using GenAI can seem as simple as typing a question or prompt, achieving the desired output often requires skilled human input through a process called **'prompt engineering'.** This involves techniques for composing input to produce GenAI output that more closely resembles the user's desired intent.

It is crucial to understand that **GenAI does not genuinely understand the content it generates.** Instead, it strings words or elements together based on statistical probabilities and patterns found in its training data, which is typically drawn from the internet. This process can lead to superficial, inaccurate, or even harmful outputs, requiring users to evaluate everything generated critically.

The development of GenAI relies on massive computing power and extensive datasets, concentrated mainly among major international technology companies and a few economies. This can exacerbate digital poverty, making the creation and control of such systems inaccessible to many countries, especially those in the Global South like Nigeria.

Application of Generative AI within schools

Generative AI offers a wealth of potential opportunities to support and enrich the educational experience in Nigerian schools, aligning with educational goals and promoting student and staff well-being. These potential benefits can be categorized as follows:

1. Personalized Learning:
GenAI can tailor educational content and learning pathways to each student's individual needs and pace. It can generate additional personalized learning content, readings, and worksheets as needed. AI systems can also adjust examinations to a student's assessed level of comprehension. This personalization can help address diverse learning needs and backgrounds, especially for students who are falling behind or have learning disabilities.

2. AI Tutors and Assistants:

GenAI-powered tutors and assistants can provide individualized support to students, answering questions, offering explanations, and identifying resources. They can act as a '1:1 coach' for self-paced acquisition of foundational skills. AI tutors can supplement human teachers, assisting with individual or group work in traditional classrooms and providing access to education not otherwise available. They can also monitor student progress and adapt support accordingly.

3. Supporting Teachers and Administration:

GenAI can significantly reduce teacher workload by assisting with routine tasks such as generating lesson plans, preparing materials, outlining curriculum structures, and creating test questions and rubrics for evaluation. It can also assist in reviewing and modifying existing curricula to be more relevant. AI can help improve administrative processes within the school.

4. Cultural Empowerment:

AI education tools can affirm and promote local Nigerian cultures when developed with input from local cultural representatives and guided by clear national priorities and values. GenAI can be used to create bespoke textbooks and learning materials written in local languages reflecting local heritage and values. It can generate stories, songs, and activities immersed in heritage for early education, and voice interfaces can be customized to speak local languages and dialects.

5. Content Creation and Enhancement:

GenAI can be used to generate diverse creative outputs, such as text, images, music, and even code. This capability can make learning content more engaging, for example, by accompanying written material with relevant images tailored to the local context.

6. Innovative Learning Approaches:

GenAI can facilitate inquiry or project-based learning by acting as an opponent in Socratic dialogues or a research assistant. It can help in developing research questions, suggesting methodologies, and enriching data exploration. GenAI can also be prompted to create more engaging learning experiences through intelligent gamification.

7. Supporting Learners with Special Needs:

GenAI can enhance accessibility by providing features like AI-enabled subtitles/captions for learners with hearing impairments and audio descriptions for visually impaired learners. Text-tospeech and speech-to-text functions can help those with various impairments access content and communicate.

These examples demonstrate the potential of GenAI to support research, facilitate teaching, coach foundational skills, enable higher-order thinking, and support learners with special needs.

KEY RISKS TO BE AWARE OF

Despite the potential benefits, the rapid integration of GenAI in education, especially in the absence of clear guidance, carries significant risks that must be carefully considered and mitigated.

1. Bias and Stereotyped Representations:
GenAI models are trained on vast datasets that often contain biases, including discriminatory language or stereotypical views. This can lead to AI-generated content that perpetuates stereotypes, reflects only dominant views, or portrays foreign cultures as superior, potentially undermining Nigerian students' self-belief and cultural identity

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2. Misinformation and Inaccuracy:
GenAI can, and often does, generate incorrect statements and biased ideas. The generated material can appear accurate and convincing, posing a high risk for young learners or those without solid prior knowledge who may unknowingly accept inaccurate information. There is a risk of GenAI making up information, such as non-existent research publications.

3. Undermining Human Agency and Skills:
A key danger is GenAI's potential to undermine human agency and the development of intellectual skills. Overreliance on GenAI for tasks like writing can compromise the development of thinking skills. While AI can augment human thinking, it should not usurp it. Using AI for tasks GenAI does better than humans can reduce learners' opportunities for essential learning experiences like trial and error.

4. Academic Integrity (Plagiarism):
GenAI can facilitate plagiarism, allowing students to submit AI-generated text as their work. While tools are being developed to detect AI-generated content, their effectiveness is uncertain.

5. Social Detachment and Alienation:
Over-reliance on personalized AI tutors might reduce vital human interactions, potentially leading to social detachment and hindering the development of strong teacher-student relationships, which is especially concerning for children. Students might spend more time interacting with bots than engaging in traditional study or peer interactions.

6. Privacy Concerns:
The training of GenAI models involves collecting vast amounts of online data, raising significant data protection and privacy issues, especially regarding the use of data without consent. Images shared online might be incorporated into training data and used unethically. Poor students may be disproportionately exposed to AI education tools that sell their private information.

7. Lack of Transparency ("Black Box"):
GenAI systems often operate as black boxes, making it difficult to understand why particular content is generated. This lack of explanation can limit users to the logic embedded in the system's parameters, which may reflect specific cultural or commercial values.

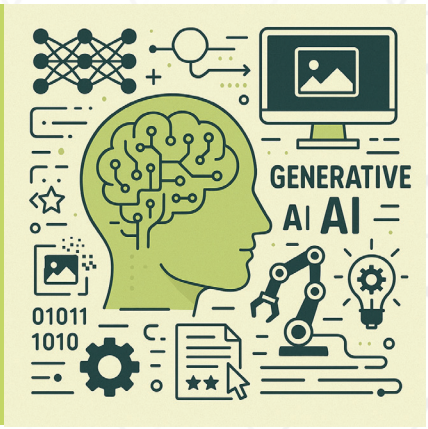
8. Digital Poverty and Inequality:
The high cost and infrastructure requirements for developing and controlling GenAI can worsen digital poverty and reinforce inequalities in access to relevant, high-quality educational opportunities, disadvantaging data-poor groups. Students from poor families are most likely to bear the negative effects if AI is deployed without care.

9. Dependence on Technology Companies:
Schools may become overly dependent on technology companies providing AI solutions, potentially losing autonomy over their operations.

10. Environmental Costs:
Leveraging AI technologies at scale requires significant energy and resources, contributing to environmental degradation.

Navigating these risks requires proactive measures and careful planning to ensure that AI serves educational goals rather than undermining them.

RESPONSIBLE USE OF GENERATIVE AI IN PRACTICE



Responsible use of generative AI in education means using these tools in ways that put learners and communities first and centre. It involves careful planning, ethical thinking, and understanding how AI can support — but not replace or harm people. Below are key principles to guide tutors, school leaders, and administrators in Nigerian schools, along with practical examples.

1. Aligning with Educational Goals: AI should and must be used to achieve clearly defined teaching, learning, and school management objectives. It should never be adopted just for trendiness. The purpose of use must be centrally aimed at supporting and enriching the learners' learning experience while balancing teaching expectations and administrative functions.

Example:
A secondary school in Enugu uses a chatbot to help students practice essay writing. The national curriculum guides the AI and helps students refine grammar and structure, but teachers still provide core feedback and grades. The tool is used to reinforce what is taught in class, not to replace the teacher.

2. Upholding Human Agency: Teachers and administrators must remain in control of teaching and school decision-making. AI should never be used to make final judgments about learners. Students should be taught how only to use AI tools for consultation, as learners should be prevented from becoming addicted to or dependent on GenAI, ensuring sufficient social interaction and exposure to human-created output.

Example:
A school in Lagos uses AI to help track student performance. If the system flags a student as "underperforming," the class teacher makes the final call after reviewing the full picture, including social and emotional factors the AI cannot assess.

3. Promoting AI Literacy: Teachers, students, and leaders should understand what AI is, how it works, and how to use it responsibly. This knowledge and awareness must cut across limitations, implications, and ethical considerations of GenAi, and they must build skills that enable them to use AI tools while also critically evaluating its outputs creatively.

Example:
An ICT teacher in a Kaduna public school introduces a short unit on AI tools, covering how to ask effective prompts, check outputs, and spot misinformation. Students learn not to copy answers, but to use AI for brainstorming and drafting ideas.

4. Ensuring Equity and Inclusion: All students should have fair access to the benefits of AI, and the tools used should reflect Nigeria's cultural and educational diversity. Schools need to make efforts to address inequalities and ensure equitable access to AI tools and resources, especially for students from low-income backgrounds.

Example:
A private school in Abuja ensures students from rural partner schools can also access AI tools by providing basic laptops and offline-compatible resources. Teachers flag when an AI tool produces culturally irrelevant or biased content, and work with developers to adjust.

5. Protecting Data Privacy and Security: Adherence to data protection regulations is essential, requiring explicit consent for using personal information and ensuring secure services. Therefore, schools must comply with Nigeria's Data Protection Act (2023) and take steps to safeguard student and staff data even when using AI for administrative functions or teaching activities.

Example:
Before introducing an AI-based learning app, a school requires the provider to show where data is stored and how it is used. Parents are informed in plain English and, if needed, in the tribal language before consent is obtained.

6. Maintaining Academic Integrity: Schools need clear rules on when and how students can use AI. Teachers must design tasks that require original thought and limit the temptation to copy from AI. Schools must create clear guidance on when and how much AI tools can be used on assignments, whether permissive, moderate or restrictive.

Example:
A school in Port Harcourt shifts from take-home essays to in-class presentations and oral defences. Students may use AI tools for research, but must explain and defend their ideas face-to-face.

7. Transparency and Accountability: Students and Staff should always declare when AI is used. Developers and school leaders must take responsibility for how AI is used and its outcomes. This will require that students be accountable for ensuring adherence to ethical practices and the data's trustworthiness in their use of AI tools.

Example:
When a school introduces an AI writing assistant in the classroom, there must be structures to ensure that each output includes a note like: "This content was generated with AI support." Training can also be conducted to enlighten staff members on how to audit and review how AI tools are used monthly.

8. Continuous Monitoring and Evaluation: Schools should check regularly to ensure that the AI tools available to students and staff members are effective, safe, and aligned with goals, and stop using any tools that cause harm.

Example:
A school runs a monthly staff feedback session on the new AI grading tool. Teachers raise concerns that the tool misjudges creative writing, so the tool is adjusted and eventually restricted to objective assessments only.

9. Co-design and Consultation: AI tools and policies should be developed with input from teachers, students, and families, not imposed from above. Consulting these stakeholders helps ensure ethical design and appropriate deployment.

Example:
Before adopting a new AI tutoring platform, a school in Osogbo can hold a parentteacher forum. In these meetings, concerns about screen time and traditional values can be raised, leading to a modified rollout that includes offline materials and limits daily use.

10. Validation of Tools: Before using AI tools, schools should check that they align with ethical standards and curriculum requirements. Rules and regulations should be in place with locally validated ethical frameworks and cause no predictable harm.

Example:
A faith-based school in Jos pilots three AI apps with a small group of teachers. One app is rejected because it pushes religious content that is inconsistent with the school's ethos. The approved tools are then rolled out more widely.

Based on the points raised above, responsible use requires navigating potential benefits and risks thoughtfully, ensuring that technology serves human needs and educational goals.

PRACTICAL STEPS FOR RESPONSIBLE AI USE AND ADOPTION IN SCHOOLS

School leaders and teachers are at the forefront of integrating GenAI into education and have crucial responsibilities in ensuring its responsible and effective use. Key actions for school leaders and teachers include:

- **Develop and Implement Institutional Strategies:** Create clear strategies and ethical frameworks to guide the responsible use of GenAI systems, aligning them with educational goals and institutional needs.

- **Validate and Monitor GenAI Systems:** Establish processes to assess, validate, and monitor the ethical risks and pedagogical appropriateness of GenAI tools before and throughout their deployment. Ensure tools align with ethical frameworks and cause no harm.

- **Build Capacity and Provide Training:** Provide guidance and high-quality training to teachers and learners on how to use GenAI tools effectively, responsibly, and ethically. This training should cover ethical issues, data privacy, intellectual property, and skills in prompt engineering and critically evaluating AI outputs.

- **Promote AI Literacy:** Integrate the development of AI competencies into the curriculum, teaching learners how AI works, its societal impact, ethical issues, and responsible use.

- **Rethink Assessment and Assignments:** Adjust assessment methodologies and design written assignments to focus on tasks that go beyond what GenAI can do, emphasizing higher-order thinking, creativity, and the application of human values.

- **Prioritize Human Agency and Interaction:** Design learning experiences that maintain human control over the use of AI tools and ensure interactive engagement. Analyse teachers' unique roles in facilitating interaction and fostering human values.

- **Co-design and Consult Stakeholders:** Engage teachers, learners, and researchers in deciding whether and how specific GenAI tools should be deployed. Consult stakeholders in the design or procurement process.

- **Address Bias and Equity:** Be aware of potential biases in GenAI outputs and actively work to mitigate them, ensuring AI supports inclusion and equity and does not perpetuate exclusionary practices.

- **Ensure Compliance and Accountability:** Adhere to existing policies and regulations regarding technology use, privacy, and data security. Maintain clear accountability structures and do not cede human accountability to GenAI systems for high-stakes decisions.

- **Monitor and Report Concerns:** Implement mechanisms to monitor the outputs of GenAI tools for inappropriate content. Be aware of unlawful GenAI applications and report them to the relevant authorities.

- **Integrate Local Context and Values:** When using or developing AI tools, ensure they align with Nigerian cultural identity and values, incorporating local history, languages, stories, and examples into the curriculum.

By taking these steps, school leaders and teachers can harness the potential of GenAI while safeguarding against its risks and ensuring a human-centred educational environment.

LEGAL AND ETHICAL ISSUES TO KEEP IN MIND

The integration of GenAI in education raises critical legal and ethical considerations that require careful attention at the governmental, institutional, and individual levels.
Key legal and ethical issues include:

- **Human-Centred Approach:** The overarching principle is that AI should serve human development and capabilities, guided by human rights principles, protecting human dignity and cultural diversity. AI should augment human abilities, not usurp or conflict with them.

- **Data Protection and Privacy:** Training and using GenAI involve collecting and processing data, necessitating adherence to data protection regulations and requiring informed consent for the use of personal information.

- **Bias and Discrimination:** AI systems trained on biased data can perpetuate discrimination. Addressing biases in datasets and outputs is a continuous obligation for providers and users. In Nigeria, there is a risk of perpetuating Western biases and agendas misaligned with local values.

- **Transparency and Explainability:** The “black box” nature of GenAI makes it hard to understand how outputs are generated, potentially embedding cultural or commercial biases. Proper regulation requires transparency and public accountability.

- **Copyright and Intellectual Property**: GenAI raises challenges regarding the copyright of training data and the status of AI-generated content. Users must know that shared images might be used in training data and manipulated unethically. Providers should ensure they use legally sourced data and abide by intellectual property laws.

- **Human Agency and Accountability:** Ensuring AI does not undermine human agency is a core consideration. Humans must remain accountable for decisions made, particularly in high-stakes educational contexts.

- **Age Appropriateness:** Consideration should be given to setting an age limit for independent conversations with GenAI platforms. Content and interactions should be proportionate to the learner's age.

- **Equity and Access:** Policies and regulations should aim to ensure equitable access to AI, addressing disparities in infrastructure and digital literacy that can worsen digital poverty.

- **Validation and Monitoring:** Educational institutions should validate GenAI systems for ethical and pedagogical appropriateness. Regular audits and assessments of algorithms, data, and outputs are recommended.

- **Environmental Impact:** The energy and resources required for large-scale AI models have environmental costs that should be considered.

- **Local Ownership and Control:** In Nigeria, it is crucial to ensure local stakeholders have agency in shaping AI software and content to reflect local values and culture. Legal frameworks should support this participatory approach.

Addressing these issues requires a multi-stakeholder approach involving governments, institutions, providers, educators, parents, and learners to develop and implement appropriate regulations and policies.

GETTING STARTED: PRACTICAL STEPS FOR SCHOOLS

Implementing GenAI responsibly requires careful planning and action by school leaders and staff. Based on the guidance provided, here are some practical steps schools in Nigeria can take:

1. Form A Focal group or Committee: Establish a committee or working group involving school leaders, teachers from different subjects, and potentially student and parent representatives to discuss and oversee the integration of GenAI.

2. Understand the Technology: Ensure the focus group or committee and key staff members develop a foundational understanding of what GenAI is, how it works, and its capabilities and limitations. You can help them strengthen their knowledge by using the available guidance and resources.

3. Define Educational Goals: Clearly identify the specific educational goals that GenAI is intended to help achieve within the school. Focus on areas where AI can genuinely support and enrich learning, teaching, or administration.

4. Assess Needs and Identify Potential Uses: Explore potential applications of GenAI that align with defined goals, considering areas like personalized content, teacher assistance, or creative learning activities. Consult with teachers and learners about their needs and views.

5. Research and Validate Tools: Before adopting any GenAI tool, research its features, data usage policies, and ethical considerations. Validate its pedagogical appropriateness, safety, and alignment with local ethical frameworks. Insist that suppliers provide information about their design processes and efforts to mitigate bias.

6. Develop School Policies and Guidelines: Create clear policies and guidelines for the responsible use of GenAI by students, teachers, and staff. These should cover acceptable use, data privacy, academic integrity, and expectations for critical evaluation of AI output.

7. Provide Training and Capacity Building: Implement comprehensive training programs for teachers and staff on using GenAI tools effectively and ethically. Include training on prompt-engineering and critical evaluation. Equip teachers to teach AI literacy to students.

8. Integrate AI Literacy into the Curriculum: Plan how to teach students about AI, its societal implications, ethical issues, and responsible use in an ageappropriate manner.

9. Address Equity and Access: Assess and address potential disparities in access to technology and connectivity among students. Ensure AI initiatives promote inclusion and support all learners. Consider tools that reflect local languages and culture.

10. Pilot and Evaluate: Start with piloting GenAI tools in specific contexts or classrooms before large-scale adoption. Continuously monitor and evaluate the impact of GenAI use on learning outcomes, teacher workload, ethical risks, and student well-being. Gather feedback from users.

11. Maintain Human Oversight: Emphasize that AI tools are aids, and human educators remain in control of pedagogical decisions and student support.

12. Stay Updated: The field of GenAI is rapidly evolving. Regularly review and update policies and practices based on new developments, research, and feedback. Engage in public debate and policy dialogues on long-term implications.

By following these steps, schools can build a foundation for integrating GenAI in a way that maximizes benefits while minimizing risks, ensuring technology serves the fundamental goals of education.

HELPFUL RESOURCES

The following sources were used to develop this guide and provide more in-depth information on the topics covered:

- **Guidance for generative AI in education and research (UNESCO):** Provides comprehensive global guidance on GenAI in education, covering understanding GenAI, risks, regulation, policy frameworks, and creative uses.

- **AI and education: Kids need AI guidance in school. But who guides the schools? (World Economic Forum):** Discusses the need for guidance and presents 7 principles for responsible AI use in education.

- **AI must be kept in check at school (The UNESCO Courier):** Highlights the need for supervision and independent evaluation of AI in education, discussing risks and mentioning UNESCO's guidance.

- **The future of education and AI in Nigeria whitepaper (International Rescue Committee & Handshake):** Provides specific insights into the potential opportunities and risks of GenAI for the education system in Nigeria, based on expert workshops.

- **The Ethical Framework for AI in Education (The Institute for Ethical AI in Education):** Offers a framework for the ethical design, procurement, and application of AI in education, focusing on principles for decision-makers.

Additional relevant UNESCO documents cited in the sources include:

- **Recommendation on the Ethics of Artificial Intelligence (UNESCO, 2021):** Provides a normative framework for addressing controversies around AI.

- **Beijing Consensus on Artificial Intelligence and Education (UNESCO, 2019):** Elaborates on a human-centred approach to AI in education.

- **AI and education: guidance for policy-makers (UNESCO, 2022):** Offers recommendations for developing sector-wide policies on AI and education.

These resources offer valuable perspectives and detailed recommendations for navigating the complexities of GenAI in educational settings.

ANNEX

7 Principles for Responsible and Effective Use of AI in Education (Summarized from the AI Guidance for Schools Toolkit developed by TeachAI, an initiative led by Code.org, ETS, ISTE, Khan Academy, and the World Economic Forum).

1. Purpose
Explicitly connect the use of AI to educational goals. AI should be employed purposefully to support and enrich the learning experience, promoting student and staff well-being and enhancing administrative functions, aligning with the shared education vision.

2. Compliance:
Affirm adherence to existing policies. Implementing AI requires compliance with key areas of technology policy, including privacy, data security, student safety, and data ownership, aligning with existing regulations and ethical considerations.

3. Knowledge
Promote AI Literacy. Equip individuals with the knowledge and skills to engage responsibly with AI technologies, understanding how AI works, its limitations, implications, and ethical considerations.

4. Balance
Realize the benefits of AI and address the risks. While AI offers numerous potential benefits, it's vital to acknowledge and mitigate its risks. Provide guidance on using AI responsibly, ensuring it supports community goals like improving student and teacher well-being and learning outcomes.

5. Integrity
Advance academic integrity. Address plagiarism risks while using AI to emphasize fundamental values like honesty, trust, fairness, respect, and responsibility. Be clear about when and how to use AI on assignments (Permissive, Moderate, Restrictive).

6. Agency
Maintain human decision-making. Any AI-supported decision-making must allow for human intervention and rely on human approval processes. AI should serve in a consultative role, augmenting but not replacing the responsibilities of educators and administrators.

7. Evaluation
Continuously assess the impact of AI. Regularly review and update AI guidance to ensure it meets the evolving needs of the educational community and complies with changing laws and technology. Feedback from various stakeholders is vital for continuous improvement.

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