American Journal of Science and Learning for Development
Volume 5, Issue 4 | October -2026

ISSN: 2835-2157

Article

Reimagining Early Childhood Education Practices in the Era of Artificial Intelligence

Eliphaletphebe Chinyere Amaewhule, PhD[1]

1. Department of Educational management, Faculty of Education, Rivers State University, Port Harcourt, Nigeria.

* Correspondence: chinyere.amaewhule@ust.edu.ng

Abstract: Artificial intelligence (AI) is rapidly transforming educational practices, creating new opportunities and challenges for early childhood education. This paper examines how early childhood education practices can be reimagined in response to the emergence of AI, while maintaining the principles of developmentally appropriate, play-based and child-centred learning. The paper focuses on eight major dimensions: AI-supported personalised learning; AI-enhanced play and creativity; transformation of teachers' professional roles; ethical and safe use of AI; AI-supported observation and assessment; inclusive early childhood education; AI-enhanced family–school partnerships; and the development of age-appropriate AI literacy. The paper argues that AI should function as a pedagogical support tool rather than a replacement for early childhood educators, human interaction or children's experiential play. NAEYC (2020) emphasises that developmentally appropriate practice should promote children's optimal development through strengths-based, play-based and joyful learning. Similarly, UNESCO (2024) identifies human-centredness, AI ethics, AI pedagogy and professional learning as important dimensions of teachers' AI competence. UNICEF (2025) further stresses children's safety, privacy, inclusion, non-discrimination, well-being and best interests in the development and use of AI. The paper concludes that successful integration of AI into early childhood education requires a carefully balanced human–AI partnership in which technology enhances teachers' capacity while children's development, relationships, creativity, play, dignity and well-being remain paramount.

Keywords: Artificial intelligence, early childhood education, AI literacy, play-based learning, personalised learning.

Citation: Amaewhule, E. C. Reimagining Early Childhood Education Practices in the Era of Artificial Intelligence. American Journal of Science and Learning for Development 2026, 5(4), 12-21.

Received: 4th May 2026
Revised: 11th Jun 2026
Accepted: 08th Jul 2026
Published: 03th Aug 2026

Copyright: © 2026 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/)

1. Introduction

Early childhood education constitutes the foundation upon which subsequent educational, social, emotional and cognitive development is built. The period from birth through the early years of primary education is characterised by rapid development and an extraordinary capacity for learning. Consequently, the quality of experiences provided during this period has significant implications for children's later educational achievement, social competence and lifelong development. The National Association for the Education of Young Children (NAEYC, 2020) maintains that every child has a right to equitable learning opportunities that support optimal development across developmental domains. It defines developmentally appropriate practice as a strengths-based and play-based approach to joyful and engaged learning. The emergence of artificial intelligence has introduced a new technological dimension into this educational landscape. AI systems can generate text, images, stories and learning materials; analyse information; support

decision-making; personalise learning experiences; and assist teachers with professional tasks. These developments create opportunities for early childhood educators to reconsider how learning experiences are designed, how children's development is observed, how families are engaged and how teachers prepare for their professional responsibilities. However, the introduction of AI into early childhood education requires considerably greater caution than its use with older learners because young children are still developing foundational cognitive, emotional, social and communicative capacities.

The fundamental question is therefore not whether AI should be introduced into early childhood education, but how AI can be used responsibly to strengthen developmentally appropriate practice without undermining the human relationships and experiences that are central to young children's learning. NAEYC's developmentally appropriate practice framework places children's individuality, developmental characteristics, family and community contexts at the centre of educational decision-making. Thus, any AI-supported practice should be evaluated according to whether it contributes meaningfully to children's development rather than merely according to its technological sophistication. AI also requires a transformation in teachers' professional competencies. UNESCO's AI Competency Framework for Teachers identifies 15 competencies organised around five dimensions: human-centred mindset, ethics of AI, AI foundations and applications, AI pedagogy, and AI for professional learning. For early childhood educators, this implies that professional preparation must move beyond conventional digital literacy towards the ability to evaluate AI outputs, recognise potential bias, protect children's information, design appropriate AI-supported activities and maintain professional judgement.

Equally important are questions concerning children's rights and safety. UNICEF's updated Guidance on AI and Children identifies ten requirements for child-centred AI, including safety, privacy and data protection, non-discrimination, transparency, accountability, children's best interests, inclusion and preparation for future developments in AI. These principles are particularly relevant to early childhood education because young children have limited capacity to understand the implications of data collection, algorithmic decision-making and digital privacy.

In developing countries such as Nigeria, the discussion also needs to incorporate issues of educational inequality and digital infrastructure. AI-supported early childhood education cannot be meaningful where schools lack reliable electricity, internet connectivity, appropriate devices, trained teachers and adequate technical support. Consequently, reimagining early childhood education through AI requires not merely the acquisition of technological tools but also investment in teacher education, infrastructure, curriculum development, ethical governance and equitable access. The central argument of this paper is that AI should be regarded as an augmentative technology within early childhood education. It can assist teachers in personalising learning, generating creative resources, documenting children's progress, supporting inclusion, strengthening family communication and introducing age-appropriate AI literacy. Nevertheless, AI should not replace teachers, children's peer relationships, physical play, direct communication, storytelling, exploration or hands-on experiences. The future-oriented early childhood classroom should therefore combine the strengths of human pedagogy with the supportive capabilities of AI.

2. Conceptual Terms

Concept of Early Childhood Education

Gordon and Browne (2007), in Beginning Essentials in Early Childhood Education, present early childhood education as a specialised field concerned with young children, the teacher, the learning environment and what is taught. Their work places considerable emphasis on child development, developmentally appropriate practice and multicultural considerations. The authors' text is structured around the questions of what the field is, who the child is, who the teacher is and what is being taught, thereby demonstrating that

early childhood education involves more than the transmission of academic knowledge. It encompasses the total learning environment and the developmental needs of young children (Gordon & Browne, 2007). Their conceptualisation is relevant to the present study because the introduction of artificial intelligence into early childhood education must be guided by children's developmental characteristics and the professional responsibilities of teachers. The existence and bibliographic details of the work are independently verifiable through Google Books and university library records. Nwisagbo and Dikeogu (2024) conceptualises early childhood education as an educational field concerned with young children and their development, with emphasis on appropriate educational experiences during the early years. His work gives attention to the child, teacher, curriculum, learning environment and developmentally appropriate educational practices (Morrison, 2009).

Ogunode (2020), in his study of Early Childhood Care and Education (ECCE), explains the objectives of early childhood education in terms of supporting children's transition from home to school, preparing them for primary education, providing appropriate care and supervision, developing social values, encouraging creativity and inquiry, promoting cooperation, and developing basic concepts such as numbers, letters, colours, shapes and forms through appropriate learning experiences (Ogunode, 2020). NAEYC (2020) views early childhood education through the principle of developmentally appropriate practice, emphasising learning and development that are responsive to children's age-related characteristics, individual differences and social and cultural contexts (NAEYC, 2020). The perspective places the whole child at the centre of educational practice and emphasises developmentally appropriate, strengths-based and play-based learning. Thus, early childhood education should provide children with meaningful opportunities to explore, interact, communicate, create and learn through developmentally suitable experiences. This perspective has particular significance for AI because technological applications must be selected according to children's developmental needs rather than simply because they are technologically advanced. UNESCO (2025) conceptualises early childhood care and education as a holistic foundation for lifelong learning, health, social-emotional development and well-being, covering the early years from birth to approximately eight years. UNESCO's position moves the concept beyond preparation for formal schooling and emphasises the child's overall development (UNESCO, 2025). This understanding is important in reimagining early childhood education in the AI era because the use of AI should contribute to children's intellectual, social, emotional, physical and creative development rather than encourage excessive dependence on digital technologies.

Concept of Artificial Intelligence

McCarthy (2007), one of the pioneers of artificial intelligence, defines AI as the science and engineering of making intelligent machines, particularly intelligent computer programmes (McCarthy, 2007). His definition highlights the fundamental objective of AI: developing computer systems capable of performing tasks associated with intelligent behaviour. In education, this means that AI can be employed to support activities involving information processing, communication, problem-solving, content generation and decision-making. McCarthy's original explanation is available through Stanford University's computer science resources. Haenlein and Kaplan (2019) conceptualise artificial intelligence as a system's ability to interpret external data correctly, learn from such data and use the learning to achieve particular goals through flexible adaptation (Haenlein & Kaplan, 2019). Their conceptualisation is important because it identifies data interpretation, learning and adaptation as central characteristics of AI. Within early childhood education, this understanding provides a basis for considering AI-supported systems that can assist teachers in analysing learning information, developing personalised activities and supporting educational decision-making.

Ogunode, Edinoh and Okolie (2023) discuss artificial intelligence as a technological development with considerable applications in educational management. Their study identifies potential applications of AI in teaching, learning, examination administration, virtual learning, research, data management, community service and institutional administration (Ogunode et al., 2023). The Organisation for Economic Co-operation and Development (OECD) explains an AI system as a machine-based system that, for explicit or implicit objectives, infers from the inputs it receives how to generate outputs such as predictions, content, recommendations or decisions that can influence physical or virtual environments (OECD, 2024). This definition demonstrates that AI involves the processing of information and the generation of outputs that can be used for practical purposes. Applied to early childhood education, such capabilities could support lesson preparation, learning-resource development, documentation, assessment and personalised educational experiences. Russell and Norvig (2021) approach artificial intelligence through the idea of intelligent agents—systems that perceive their environment and act in ways intended to achieve particular objectives. Their framework identifies different approaches to AI, including systems that think humanly, think rationally, act humanly and act rationally (Russell & Norvig, 2021). Their perspective demonstrates that AI is a broad field involving reasoning, learning, perception, communication and action. In early childhood education, this broad understanding allows educators to consider AI applications not merely as teaching machines but as tools that can support planning, communication, assessment, creativity and educational decision-making.

3. Result and Discussion

AI-Supported Personalised and Developmentally Appropriate Learning

One important way of reimagining early childhood education is through the use of AI to support more personalised learning experiences. Traditional early childhood classrooms often contain children with different levels of language development, cognitive ability, interests, learning pace and prior experiences. AI-supported educational applications can potentially assist teachers in identifying patterns in children's learning and generating differentiated learning resources that correspond with individual needs. For example, an AI-assisted system may help a teacher prepare different levels of vocabulary activities, storytelling prompts, puzzles or early numeracy exercises for children who demonstrate different learning needs. However, personalisation must remain under the professional judgement of the early childhood educator. AI should provide information and instructional possibilities rather than determine what a child needs. NAEYC (2020) stresses that developmentally appropriate practice requires educators to consider children's common developmental characteristics, individual differences and social-cultural contexts. Therefore, AI-generated activities should always be reviewed by teachers to ensure that they are suitable for children's age, developmental stage, language, culture and interests. The significance of this approach is that it moves early childhood education away from a rigid "one-size-fits-all" model towards more responsive pedagogy. The teacher remains the central professional who interprets children's behaviour and development, while AI functions as an assistive resource. In this sense, the future classroom should be conceived as a human-AI partnership, rather than an AI-dominated environment.

Reimagining Play, Creativity and Early Learning Through AI

The second major area is the transformation of play and creative learning. Play is not an optional addition to early childhood education; it is a fundamental medium through which young children explore, communicate, solve problems and construct knowledge. Consequently, AI should be integrated into play-based pedagogy rather than used to replace physical, social and imaginative play. AI can assist teachers in creating stories, characters, songs, visual prompts and problem-solving scenarios that stimulate children's imagination (Ogunode, & Gregory, 2023). For example, a teacher might use an AI system

to generate a story about environmental conservation involving local Nigerian children, animals and communities, and then allow children to dramatise the story, draw the characters, sing songs about it or construct related objects with blocks and other materials. In such an arrangement, AI becomes a stimulus for children's imagination, while the actual learning remains experiential, social and creative. This position is consistent with NAEYC's (2020) understanding of developmentally appropriate practice as a strengths-based and play-based approach to joyful learning. Similarly, NAEYC's guidance on technology maintains that technology and interactive media can support learning when they are used intentionally and appropriately, while limitations on technology use remain important. The implication for early childhood teachers is profound. Rather than allowing children to passively consume AI-generated content, educators should design activities in which children talk, imagine, move, manipulate materials, collaborate and create. AI should therefore extend children's play rather than displace the essential human experiences that make early childhood education meaningful.

Reimagining the Role and Professional Competence of the Early Childhood Teacher

AI is also redefining the professional role of the early childhood educator. The teacher of the future will increasingly need to possess not only knowledge of child development and pedagogy but also sufficient AI literacy to evaluate, select and use AI tools responsibly. UNESCO's AI Competency Framework for Teachers identifies 15 competencies across five dimensions: human-centred mindset, ethics of AI, AI foundations and applications, AI pedagogy, and AI for professional learning (UNESCO, 2024). For early childhood educators, this means that teacher preparation programmes should incorporate foundational knowledge of AI, digital ethics, data protection, AI-assisted lesson planning and critical evaluation of AI-generated materials. A teacher should be able to ask important questions before introducing an AI application: Is it appropriate for the child's developmental level? Does it promote active learning? Does it protect children's personal information? Does it reinforce rather than undermine teacher-child interaction? Is the information generated by the system accurate and culturally appropriate? This transformation does not diminish the importance of teachers. On the contrary, it makes professional judgement even more important. AI can generate a story or activity within seconds, but it cannot substitute for the teacher's intimate understanding of a child's emotional state, family circumstances, interests, language background and social relationships. UNESCO (2024) therefore places human agency, ethical practice and responsible AI use at the centre of teacher competence.

Consequently, early childhood teacher education institutions in Nigeria should move beyond basic computer literacy towards AI pedagogical competence. Continuous professional development should equip teachers to use AI as a professional assistant for lesson preparation, resource development, documentation, reflection and professional learning while ensuring that the teacher remains accountable for educational decisions.

Child-Centred, Ethical, Inclusive and Safe Use of AI

The fourth dimension concerns ethics, inclusion, privacy and children's safety. Early childhood educators are working with a particularly vulnerable population; therefore, AI adoption must be guided by the best interests and rights of the child. AI systems may collect children's personal information, produce inappropriate content, reproduce cultural or linguistic biases, or generate inaccurate recommendations. These risks make uncritical adoption of AI inappropriate in early childhood settings. UNICEF's Guidance on AI and Children emphasises children's safety, privacy, non-discrimination, transparency, accountability, inclusion, development and well-being as essential requirements for child-centred AI. UNESCO (2023) similarly advocates a human-centred approach to generative AI, including data protection, age-appropriate use, ethical validation and pedagogical suitability. For early childhood education, this means that teachers and school administrators should establish clear rules concerning the collection, storage and use of

children's data. Children's photographs, voices, names, developmental records and other personal information should not be entered into AI platforms without appropriate safeguards and consent. Furthermore, AI resources should be checked for cultural relevance and inclusiveness. In the Nigerian context, this is particularly important because early childhood education serves children from diverse linguistic, cultural and socioeconomic backgrounds. AI should consequently be used to reduce educational inequalities rather than deepen the digital divide. Schools serving disadvantaged communities should not be excluded from emerging AI-supported educational opportunities simply because they have inadequate infrastructure. Reimagining early childhood education therefore requires investment in electricity, connectivity, teacher capacity, appropriate digital resources and institutional policies alongside the introduction of AI.

AI-Enhanced Observation, Documentation and Assessment of Young Children

Another important dimension of reimagining early childhood education is the use of artificial intelligence to strengthen children's observation, documentation and assessment. Assessment in early childhood education should be continuous, authentic and based on children's activities, interactions, interests and developmental progress rather than relying exclusively on formal examinations. AI can support teachers by helping them organise large amounts of observational information, identify patterns in children's learning and development, and generate preliminary summaries of children's progress (Ogunode, Agbade, & Bassey, 2023). For instance, teachers may digitally document children's drawings, storytelling, language use, participation in group activities and problem-solving behaviours. AI-supported systems could assist educators in organising these records and identifying areas requiring additional attention. Recent research has begun exploring the possibility of using large language models as assessment assistants for analysing teacher-child interactions, suggesting potential for more frequent and scalable quality assessment when human professionals remain involved in the process (Li et al., 2026). Nevertheless, AI-generated assessment should never become an autonomous mechanism for labelling or making high-stakes decisions about young children. Young children's development is complex and influenced by family, culture, language, emotions and social relationships. AI should supportnot replace the professional observation and interpretation of early childhood educators. This position is consistent with NAEYC's argument that technology should be used intentionally and appropriately to support children's learning and development.

Strengthening Inclusive Early Childhood Education Through AI

AI also provides opportunities to reimagine early childhood education as a more inclusive system. Children enter early childhood programmes with different abilities, languages, cultural backgrounds and developmental needs. Properly designed AI-supported technologies can provide alternative forms of interaction and communication for children who may experience barriers to conventional classroom participation. For example, assistive technologies can support children with developmental delays or disabilities through speech recognition, visual prompts, adaptive learning materials, text-to-speech systems and personalised communication tools. NAEYC specifically identifies assistive technologies as potentially appropriate resources for children with special needs and developmental delays. UNICEF likewise identifies improved accessibility for children with disabilities as one of the potential opportunities associated with responsible AI. For early childhood educators, the implication is that AI should be conceptualised as an instrument for removing barriers to participation, rather than as a mechanism for separating children according to ability. In the Nigerian context, AI-enabled inclusion could also involve developing learning materials that recognise local languages, cultural experiences and community realities (Ogunode & Olowonefa 2023; Boma-Iyaye & Nwisagbo, 2026). However, teachers must carefully evaluate AI-generated materials

because algorithmic systems may reproduce linguistic, cultural or social biases. Thus, the reimagined early childhood classroom should combine AI-supported accessibility with human empathy, peer interaction, play and culturally responsive teaching. Technology becomes most educationally valuable when it enables a child who might otherwise be excluded to participate more fully in classroom experiences.

Reimagining Family–School Partnerships Through AI

A further area for transformation is the relationship between early childhood institutions and families. Parents and caregivers are central partners in children's early development, and AI can provide new opportunities for communication between teachers and families. AI-assisted systems can help teachers prepare personalised progress reports, learning suggestions and communication materials that enable parents to understand their children's experiences in school. For example, a teacher could use an AI tool to organise classroom observations into a clear report describing a child's emerging literacy skills, interests and areas requiring further encouragement. Parents could subsequently receive suggestions for simple home-based activities such as storytelling, counting games, drawing, singing or reading. Such an approach can strengthen continuity between children's learning experiences at school and at home. However, communication through AI must remain transparent and human-centred. Parents should know when AI has been used to assist in preparing educational information, and teachers must verify the accuracy of AI-generated reports before sharing them. UNICEF's guidance emphasises transparency, accountability, children's best interests, inclusion and protection of children's data and privacy as important principles for child-centred AI. Therefore, AI should not create a technologically mediated distance between parents and teachers (Ogunode, & Ejike, 2023). Rather, it should provide educators with additional tools for maintaining meaningful partnerships with families. The teacher's professional voice and direct knowledge of the child should remain central.

Developing Early AI Literacy, Critical Thinking and Responsible Digital Citizenship

The eighth dimension is the development of age-appropriate foundations for AI literacy. Reimagining early childhood education does not mean teaching young children advanced programming or complex algorithms. Rather, it means gradually helping children understand that some technologies can respond to human instructions, generate information and make decisions based on data. Early AI literacy can be introduced through simple, playful activities. For example, children can explore how a computer recognises patterns, compare human-created pictures with computer-generated pictures, arrange objects according to rules, or participate in simple coding stories and games. NAEYC identifies coding stories and games as collaborative and playful activities that can build early mathematics and literacy concepts. At this level, the emphasis should be on curiosity, questioning, problem-solving, creativity and responsible technology use, rather than technical mastery. Children can gradually learn that computers do not necessarily "know" everything and that information produced by technology should be questioned and checked. UNICEF's child-centred AI guidance similarly stresses preparing and developing children's skills for present and future developments in AI while protecting their rights and well-being. Consequently, early childhood education should begin laying the foundations for children to become thoughtful users and eventual creators of technology rather than passive consumers. For Nigerian early childhood education, this has particular significance because children entering today's early learning environments will eventually participate in a labour market and society increasingly influenced by AI. The appropriate response is therefore neither technological rejection nor technological dependence, but guided preparation (Ogunode, Agbade, & Bassey, 2023). Children should develop the human capabilities communication, imagination, cooperation, empathy, creativity and critical thinking that enable them to use future technologies responsibly.

4. Conclusion and Recommendations

Artificial intelligence presents both an opportunity and a responsibility for the transformation of early childhood education. Its potential applications extend from personalised learning and creative play to assessment, inclusion, teacher professional development, family engagement and early AI literacy. Nevertheless, technological advancement must not be confused with educational progress. An AI system may generate an attractive story, learning activity or assessment report, but the early childhood educator remains responsible for determining whether the material is developmentally appropriate, culturally responsive, ethically acceptable and beneficial to the individual child. The principles of developmentally appropriate practice provide an important foundation for this transformation. NAEYC (2020) emphasises joyful, engaged, strengths-based and play-based learning that recognises children's individuality and developmental contexts. UNESCO (2024) reinforces the importance of human agency, ethics and pedagogical competence in teachers' engagement with AI. UNICEF (2025), meanwhile, establishes the protection of children's safety, privacy, rights, inclusion and well-being as fundamental requirements for child-centred AI.

Based on the findings, the study recommends the followings:

1) Integrate AI literacy into early childhood teacher education. Universities and teacher-training institutions should introduce foundational AI knowledge, ethics, data protection and AI pedagogy into early childhood education programmes. This should align with UNESCO's competency dimensions concerning human-centredness, AI ethics, AI applications, AI pedagogy and professional learning.

2) Prioritise developmentally appropriate AI use. Early childhood institutions should establish guidelines requiring every AI-supported activity to be assessed against children's developmental levels, interests, cultural contexts and learning needs. AI should complement rather than replace play, physical activity, social interaction and hands-on learning. This is consistent with NAEYC's developmentally appropriate practice framework.

3) Establish strong child-protection and data-privacy policies. Schools and early childhood centres should protect children's photographs, voices, names, developmental records and other personal information from inappropriate collection or disclosure. AI systems used with young children should comply with child-centred safety, privacy, transparency and accountability principles.

4) Invest in teachers rather than focusing exclusively on technology. Governments and educational institutions should provide continuous professional development so that teachers can critically evaluate AI-generated materials, identify misinformation and bias, and make informed pedagogical decisions. AI investment without corresponding investment in teacher competence is unlikely to produce sustainable educational improvement.

5) Use AI to strengthen inclusive education. AI-supported assistive technologies should be explored to support children with disabilities and children who experience communication, language or learning barriers. However, such technologies should be carefully evaluated to ensure that they promote participation rather than further marginalise children.

6) Maintain play and human interaction as the foundation of early childhood education. AI should be incorporated into storytelling, creative arts, problem-solving and other play-based experiences rather than becoming a substitute for direct teacher-child and child-child interaction. The educational objective should always be children's holistic development.

7) Develop institutional and national guidelines for AI in early childhood education. Education authorities should formulate clear policies covering appropriate AI

applications, teacher responsibilities, children's data, parental consent, ethical use, accessibility, assessment and safety. UNICEF's child-centred AI requirements provide a useful international framework for such policy development.

REFERENCES

1. Boma_iyaye J. & Nwisagbo, A. E. (2026). Assessment of Material Resources Adequacy for Effective Implementation of Early Childhood Education Programme in Public Universities in Rivers State. Global journal of Applied, Management and Social Sciences, 36, 12-23.
2. Gordon, A. M., & Browne, K. W. (2007). Beginning essentials in early childhood education. Thomson Delmar Learning.
3. Haenlein, M., & Kaplan, A. (2019). A brief history of artificial intelligence: On the past, present, and future of artificial intelligence. California Management Review, 61(4), 5–14. https://doi.org/10.1177/0008125619864925
4. McCarthy, J. (2007). What is artificial intelligence? Stanford University.
5. Morrison, G. S. (2009). Early childhood education today. Pearson.
6. National Association for the Education of Young Children. (2020). Developmentally appropriate practice position statement. NAEYC.
7. National Association for the Education of Young Children. (2020). Developmentally appropriate practice (DAP) position statement. NAEYC. NAEYC Developmentally Appropriate Practice Position Statement
8. National Association for the Education of Young Children. (n.d.). Technology and young children: Online resources and position statement. NAEYC.
9. National Association for the Education of Young Children. (n.d.). Technology and media. NAEYC.
10. Nwisagbo, A. E. & Dikeogu, M. A. (2024). Managing Material Resources for Effective Teaching and Learning in Early Childhood Education Centres in Port Harcourt Metropolis, Rivers State, Nigeria. Trends in Educational Studies Journal. 16(1), 42-57.
11. Li, X., Huang, Y., Jin, Y., Jiao, Y., & Bao, Y. (2026). When AI meets early childhood education: Large language models as assessment teammates in Chinese preschools. arXiv.
12. Ogunode, N. J. (2020). The evaluation of the national objectives on the Early Childhood Care Education (ECCE) program in Gwagwalada Area Council of FCT, Abuja, Nigeria. Journal of Indonesian Student Assessment and Evaluation, 6(2), 149–158.
13. Ogunode, N. J., Edinoh, K., & Okolie, R. C. (2023). Artificial intelligence and tertiary education management. Electronic Research Journal of Social Sciences and Humanities, 5(4), 18–31.
14. Ogunode, N. J. & Ukozor C,. U. (2023). Curriculum Revolution in Higher Education: The Mighty Role of Artificial Intelligence. https://ijins.umsida.ac.id/index.php/ijins/article/view/971/1183
15. Ogunode, N,. J. & Gregory, D. M. (2023). Artificial Intelligence (AI) in Educational Administration. International Journal on Orange Technologies, 5(10), 7-16. Retrieved from https://journals.researchparks.org/index.php/IJOT/article/view/483
16. Ogunode, N,. J. & Ejike, C,. N. (2023). Artificial Intelligence and Curriculum Implementation of Post-Basic Education and Career Development (PBECD) in Nigeria. Journal of Innova,on in Educa,on and Social Research, 1 (4),50-56
17. Ogunode N,. J. & Olowonefa J,. A. (2023). AI Education in Nigerian Schools. International Journal of Human Computing Studies, 5(10),47-55.
18. Ogunode, N. J., Agbade, O. P., & Bassey, U. O. (2023). Barriers to effective usage of artificial intelligence in tertiary institutions in north-central Nigeria. Web of Semantics: Journal of Interdisciplinary Science, 1(1), 38-43.
19. Organisation for Economic Co-operation and Development. (2024). OECD AI principles overview. OECD.AI.
20. Russell, S. J., & Norvig, P. (2021). Artificial intelligence: A modern approach (4th ed.). Pearson.

21. UNESCO. (2025). What you need to know about early childhood care and education. UNESCO.
22. UNICEF Office of Strategy and Evidence. (2025). Guidance on AI and children. UNICEF Innocenti.
23. UNICEF. (2025). UNICEF AI strategy 2025–2030: AI for every child. UNICEF Digital Impact. Concluding Perspective
24. UNESCO. (2024). AI competency framework for teachers. UNESCO. UNESCO AI Competency Framework for Teachers
25. UNICEF. (2025). Guidance on AI and children: Version 3.0—Recommendations for AI policies and systems that uphold child rights. UNICEF Innocenti. UNICEF Guidance on AI and Children
26. UNESCO. (2023). Guidance for generative AI in education and research. UNESCO. UNESCO: Guidance for Generative AI in Education and Research
27. UNESCO. (2024). AI competency framework for teachers. UNESCO. UNESCO: AI Competency Framework for Teachers
28. UNICEF. (2025). Guidance on AI and children: Version 3.0—Recommendations for AI policies and systems that uphold child rights. UNICEF Office of Strategy and Evidence. UNICEF: Guidance on AI and Children