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THE ROLE AND RELEVANCE OF ARTIFICIAL INTELLIGENCE IN ENHANCING THE EMPLOYABILITY OF YOUNG ADULTS IN NIGERIA

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Abstract

This conceptual paper explores the potential of Artificial Intelligence (AI) to improve the employability of young adults through adult education in the digital age. It was written to address a gap in the literature, as most studies have focused on AI in general education or workplace contexts, with limited attention given to its integration into adult education frameworks. The paper discusses key issues, including the impact of AI on labor market transformations and the evolving skills required for employability; the inadequacy of traditional adult education models in preparing learners for AI-powered industries; the opportunities AI-driven platforms provide for personalized, scalable, and data-informed learning; and the socio-economic and ethical implications of embedding AI in adult education, particularly issues of access, equity, and responsible use. The discussion emphasises that AI is reshaping skill requirements by prioritising adaptability, digital competence, problem-solving, and critical thinking, while highlighting the challenges that arise from unequal access to technology and the risks associated with unethical applications of AI. The paper concludes that AI can serve not only as a tool but also as a catalyst for transforming adult education, enabling young adults to thrive in a digitally driven economy if challenges of equity and ethics are adequately addressed. It recommends aligning adult education policies and curricula with labour market needs through AI-driven approaches, building educators' capacity for AI integration, promoting digital equity by ensuring access for disadvantaged learners, and establishing ethical safeguards for responsible AI use. By advancing these strategies, adult education can become a more inclusive and future-ready pathway for young adults' employability

Keywords: Artificial Intelligence, Adult Education, Employability, Young Adults, Digital Literacy, Future of Work

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Introduction

Adult education is a specialised field of education concerned with providing lifelong learning opportunities to individuals beyond the traditional school age. It emphasises flexibility, inclusiveness, and relevance, enabling learners to acquire knowledge and skills that support personal growth, workplace competence, and active citizenship (Merriam & Baumgartner, 2020). Unlike conventional schooling, adult education prioritises practical application and adaptability, making it critical in helping learners respond to rapidly changing economic and social contexts.

Adult education takes multiple forms, including formal, non-formal, and informal learning. Its components span literacy and basic education, vocational and technical training, continuing professional development, civic education, and digital skills training (Jarvis, 2019). These varied forms create career opportunities for young adults as facilitators of literacy programs, vocational trainers, community development workers, continuing education specialists, workplace trainers, and digital learning facilitators (Brookfield, 2018).

Such roles not only provide meaningful employment pathways but also strengthen societies by improving the knowledge and skills base of adult learners.

Parallel to the evolution of adult education, Artificial Intelligence (AI) has emerged as one of the most transformative technological advancements of the 21st century. AI refers to the simulation of human intelligence in machines that are designed to learn, reason, and solve problems (Russell & Norvig, 2021). Types of AI include narrow AI-focused on specific tasks, general AI-with broader human-like cognitive abilities still under development, and generative AI-which produces new content (Kaplan & Haenlein, 2020). Its features, such as machine learning, natural language processing, robotics, and predictive analytics, are powered by components including algorithms, neural networks, and big data (Jordan & Mitchell, 2015). These elements make AI a powerful tool for automating processes, analysing complex data, and enhancing decision-making across industries, including education.

AI holds significant potential to enhance the employability of young adults within adult education. It can personalise learning pathways, enabling learners to acquire skills at their own pace and according to their unique needs (Zawacki-Richter et al., 2019). AI-powered platforms can strengthen competencies such as digital literacy, coding, data analysis, and problem-solving—skills increasingly demanded by the labor market (World Economic Forum [WEF], 2020). Furthermore, AI can provide data-driven insights into labor market trends, enabling educators to align curricula with emerging industry requirements and better prepare young adults for employability in technology-driven economies (Huang, Saleh, & Liu, 2019).

For AI to fully contribute to employability within adult education, deliberate strategies are required. These include integrating AI-assisted tools into adult education curricula, training educators to use AI technologies effectively, and ensuring equity of access so that marginalised learners also benefit (Holmes et al., 2021). Partnerships between governments, educational institutions, and industry are necessary to develop policies that support AI integration in adult education, while ethical considerations such as data privacy, transparency, and responsible AI use must be prioritised (Floridi et al., 2018).

In this way, a reimagined adult education system that leverages AI can empower young adults not only to secure employment but to thrive in the dynamic, digitally driven world of work.

Conceptual Clarification

Adult education refers to all forms of organised learning undertaken by individuals beyond the traditional age of schooling, to improve their knowledge, skills, attitudes, and competencies for personal, social, and professional development. UNESCO (2022) defines it as a central pillar of lifelong learning, designed to empower individuals, promote social inclusion, and enhance employability. Adult education is essential in equipping young people and adults with 21st-century skills required to thrive in a rapidly evolving digital economy.

The major components of adult education include:

Formal adult education – structured and institutionalised programs leading to recognised qualifications such as diplomas, professional certificates, or advanced literacy credentials (OECD, 2023).

Non-formal adult education – organised training outside formal institutions such as vocational workshops, entrepreneurship training, literacy classes, and online short courses. This is increasingly popular in Africa due to its flexibility (UNESCO Institute for Lifelong Learning, 2022).
Informal adult education – self-directed learning, workplace learning, peer-to-peer knowledge transfer, and community engagement activities that enhance skills without necessarily being certified (OECD, 2023).
Recognition of prior learning (RPL) – acknowledgement of competencies acquired through work experience or informal learning, enabling faster access to qualifications (European Commission, 2021).
Support systems for participation – flexible modes (hybrid/online), mentoring, and digital access initiatives that help adults overcome barriers of cost, time, and location (OECD, 2023).

Together, these components make adult education not only a tool for lifelong learning but also a strategic mechanism for strengthening workforce skills, especially in the age of artificial intelligence.

Areas in Adult Education Where Young Adults Can Be Employed

Young adults (18–35 years) can play important roles in adult education systems, acting both as learners and as facilitators, trainers, or innovators. With the growth of digital learning and the evolving nature of work, multiple employment opportunities are available for young adults in adult education.

1. **Vocational and Technical Training:** Young adults can be employed as facilitators, instructors, or technical trainers in vocational institutes and skills-acquisition centers. In Nigeria, for instance, Technical and Vocational Education and Training (TVET) initiatives supported by the National Board for Technical Education (NBTE) increasingly require young professionals to deliver digital, trade, and entrepreneurial skills (Ogunode & Abubakar, 2022).
2. **Entrepreneurship and Business Development Education:** Programs that promote entrepreneurship, financial literacy, and small business management create employment for young adults as trainers, coaches, or mentors. In Ghana, studies show that entrepreneurship education targeted at youth enhances creativity, problem-solving, and self-reliance (Bawuah, 2023).
3. **Digital Learning and Educational Technology (EdTech):** With the rise of e-learning platforms and AI-driven tools, young adults can work as online course designers, content developers, facilitators, or technical support staff. Intelligent tutoring systems and AI-based learning platforms are expanding opportunities for tech-savvy young adults to innovate in adult education (Joksimovic et al., 2023).
4. **Workplace and Corporate Training:** Many organisations now integrate adult learning into human resource development. Young adults can be employed as training officers, digital literacy trainers, and workplace learning facilitators. Recent OECD (2023) data shows that more than 50% of adult learning worldwide is employer-sponsored, making this a growing area of employment.
5. **Community Development and Civic Education:** Adult education is also linked with health education, civic rights, language programs, and community engagement. Young adults, especially in Africa, are increasingly engaged in NGOs and public initiatives delivering literacy, citizenship, and health campaigns (Adebayo & Olanrewaju, 2021).

6. **Research, Policy, and Curriculum Development:** Young graduates can also participate in adult education through roles in curriculum design, education policy analysis, monitoring, and evaluation of adult learning programs, especially as governments and NGOs expand lifelong learning policies (UIL, 2022).

The Emergence and Evolution of Artificial Intelligence

Artificial Intelligence (AI) has evolved from being a theoretical concept in the mid-20th century to a collection of practical technologies that now shape economies, industries, and education. The origins of AI can be traced back to Alan Turing's seminal question in 1950, *"Can machines think?"*, and the Dartmouth Conference of 1956, where the term *Artificial Intelligence* was formally introduced (Russell & Norvig, 2021). In its early stages, AI research focused on symbolic reasoning and problem-solving; however, with the rise of computing power, big data, and advanced algorithms, AI has matured into a set of powerful tools that can mimic human intelligence and adapt to complex environments (Dwivedi, 2021).

Types of AI

AI has advanced into different categories based on functionality and scope.

Narrow or Weak AI: Specialised in performing specific tasks, such as speech recognition, image classification, and recommendation systems. This is the most widely applied form of AI today.
General AI: A theoretical form of AI capable of performing any intellectual task that a human can perform. While still aspirational, it remains a long-term research goal.
Generative AI: A new frontier of AI, capable of creating original content such as text, images, software code, and even music. Tools like ChatGPT and DALL-E represent the practical application of generative AI in education, business, and research (Dwivedi et al., 2023).

Features of AI

AI technologies exhibit several defining features that distinguish them from conventional computing systems:

Autonomy, enabling systems to perform tasks without continuous human intervention.
Adaptability, allowing systems to learn from data and refine their performance over time.
Interactivity, where AI systems engage with users or environments dynamically.
Scalability, enabling analysis of massive datasets at high speed.
Personalization, where systems tailor recommendations or learning experiences to individual users (Holmes et al., 2021).

Components of AI

The functional backbone of AI rests on several interrelated components:

Machine Learning (ML) – algorithms that allow computers to learn patterns from data and improve predictions.

Natural Language Processing (NLP) – technologies enabling machines to understand and produce human language, used in chatbots and translation tools.
Computer Vision – systems that interpret and analyse visual data such as images and videos.
Robotics and Automation – AI-driven technologies capable of executing tasks in industrial, medical, and service contexts.
Big Data Analytics – large-scale data processing that fuels AI decision-making and predictive modelling (Zhang et al., 2022).
In summary, the evolution of AI reflects a steady shift from symbolic reasoning to data-driven and generative models, offering new ways to augment human intelligence. As it continues to advance, AI provides both opportunities and challenges for sectors such as education, where its integration can significantly enhance learning and employability.

How AI Can Enhance the Employability of Young Adults in Adult Education

Artificial Intelligence (AI) presents transformative opportunities for improving the employability of young adults by reshaping how adult education is designed, delivered, and experienced. Employability in this context refers to the ability of young adults, typically aged 18–35, to acquire, maintain, and progress in meaningful employment through the development of relevant skills, knowledge, and personal attributes. Given the rapidly changing nature of work in the digital age, AI-enabled education can play a critical role in bridging the skills gap and preparing learners for emerging labour market demands.

First, AI enables personalised and adaptive learning experiences that can be tailored to individual learners' needs, preferences, and career goals. Intelligent tutoring systems and adaptive learning platforms provide customised feedback, differentiated instruction, and individualised learning pathways, allowing young adults to build both technical and soft skills at their own pace (Holmes et al., 2021). This personalisation enhances digital literacy, problem-solving, and critical thinking-core skills increasingly demanded by employers.

Second, AI tools can facilitate skills development aligned with labour market trends. By analysing real-time labour market data, AI systems can identify the most in-demand skills and competencies, enabling adult educators to design curricula that reflect industry needs. For example, coding, data analysis, digital communication, and AI literacy are areas where training programs can be developed to prepare young adults for new job opportunities (Joksimovic et al., 2023). This data-driven approach ensures that learning is not only theoretical but also directly linked to employability.

Third, AI fosters career readiness through simulation and experiential learning. Technologies such as augmented reality (AR) and virtual reality (VR), when combined with AI, can provide immersive, practice-based environments where young adults develop problem-solving, teamwork, and technical skills relevant to their fields. This approach reduces the gap between classroom instruction and workplace expectations (Joshi, Rambola, & Churi, 2021).
Finally, AI can contribute to lifelong and flexible learning opportunities by breaking barriers of time, cost, and geography. Mobile-based AI applications and e-learning platforms provide access to training and upskilling resources, particularly valuable for young adults in developing regions where traditional education systems may not keep pace with technological change (UNESCO, 2022). By promoting inclusivity and digital equity, AI creates more pathways for employability across diverse socio-economic groups.

In summary, AI enhances employability by equipping young adults with future-ready skills, aligning education with industry needs, and offering flexible, personalised, and accessible learning solutions. Its integration into adult education, therefore, has the potential to transform young adults into adaptable, innovative, and competitive participants in the global workforce.

From Learning to Earning: How AI Enhances Employability of Young Adults in Adult Education

With the assistance of AI-driven tools and technologies, adult educators have the ability to tailor instruction, modify content according to individual requirements, and deliver focused support to students. Intelligent tutoring systems are capable of providing immediate feedback, highlighting knowledge deficiencies, and recommending customised learning resources. Additionally, virtual and augmented reality can immerse learners in interactive educational experiences. As facilitators, adult educators can utilise these advancements in technology to craft engaging and effective learning environments.

While some individuals may perceive AI as a challenge to conventional teaching methods, adult educators need to recognise the exciting possibilities it introduces for enhancing educational experiences. Educators hold a vital responsibility in designing and guiding impactful learning journeys. The true strength of an adult educator lies not merely in the information they impart but in their ability to create opportunities for young adults to develop learning strategies, solve problems effectively, and apply their knowledge in significant ways—skills that are increasingly important for improving employability in today's fast-evolving world.

Evolving Role of Adult Educators in the Age of AI

1. **Co-Designing Learning Experiences:** Despite the rise of AI technologies, the role of educators remains indispensable. Technology should be viewed not as a replacement for instructors but rather as an essential resource within their pedagogical toolkit. Adult educators take on the role of co-designers alongside their students, collaboratively crafting relevant and authentic educational paths. By utilizing AI, they can facilitate inquiry-based learning approaches that enhance problem-solving abilities and critical thinking skills. Integrating AI into lesson planning empowers students to pursue their interests while connecting with real-world contexts, thereby equipping them with vital skills for future success.
2. **Curating AI-Driven Content:** Given the vast array of educational materials accessible through AI platforms, educators can assume the role of curators by selecting, assessing, and modifying AI-generated content tailored specifically to their students' needs. They also ensure that this content aligns with academic standards while promoting critical thinking and deep comprehension. Through careful curation of AI-driven resources, educators can personalise instruction based on learners' strengths and preferences.
3. **Fostering Collaborative Learning:** The integration of AI opens new avenues for collaboration and partnership opportunities. As students engage with projects requiring interaction with external organisations or experts, educators serve as facilitators for these connections. By creating collaborative

experiences, teachers enable learners to benefit from diverse viewpoints while developing teamwork capabilities and embracing lifelong learning principles. In this collective ecosystem, educators also adopt a learner's mindset—they acknowledge that no one possesses all knowledge amid constantly expanding information landscapes—and model curiosity along with adaptability.

4. **Building Learning Communities:** Education transcends individual learning; it centres around cultivating communities. Educators play a pivotal role in establishing relationships with students while nurturing supportive environments conducive to learning. Leveraging AI tools such as adaptive platforms allows facilitators to offer personalised feedback; yet it is human interaction that truly fosters emotional well-being among learners. Through direct engagement—mentorships and guidance—educators cultivate spaces where every learner feels respected and inspired.
5. **Preparing Students for an AI-Centric Future:** As industries increasingly incorporate AI technologies, preparing students with the requisite skills becomes crucial for thriving within this landscape. Educators must ensure that students acquire critical thinking abilities alongside creativity and ethical decision-making skills relevant to navigating societal implications associated with AI usage—including ethics concerning privacy issues.

   AI should not be seen as a means of displacing teachers but rather as an empowering instrument designed to enhance educational practices further; it provides vast opportunities for personalising education while fostering collaboration among stakeholders—all while presenting challenges requiring adept navigation by those involved in education today.

6. **Supporting Educators Amidst Their Changing Roles:** As we explore what's possible through integrating AI into education frameworks, effectively supporting our educators' evolving roles is paramount—professional development programs must endow teachers with the necessary competencies enabling them to make full use of innovative technologies available today! Sharing best practices via professional learning communities will nurture an innovation culture along continuous professional growth pathways!

   The era defined by artificial intelligence presents abundant prospects for instructors alike! Embracing its potential enables enhanced engagement levels throughout various aspects pertaining towards enriching student outcomes overall! Although leveraging technological innovations offers remarkable chances ahead, truly unlocking transformative power hinges upon creative guidance combined compassionately provided by dedicated professionals involved therein!

Lastly, integrating both traditional methods alongside advanced tech solutions generates holistic experiences intertwining human mentorship seamlessly intertwined amongst intelligent software applications, helping shape curricula oriented towards job market relevance during design stages too! Importantly, prioritising educator training initiatives remains key if we aspire to successfully incorporate AI into contemporary classroom settings, promoting effective teaching methodologies moving forward.

Conclusion

The rapid evolution of Artificial Intelligence is reshaping the world of work and redefining the skills required for employability. For young adults engaged in adult education, AI presents both opportunities and challenges, offering new pathways for skills development, personalised learning, and career advancement. While AI-driven tools can enhance teaching, learning, and curriculum design, the human role of adult educators remains central in fostering critical thinking, creativity, and ethical decision-making. To fully harness the potential of AI in adult education, deliberate efforts are needed to integrate AI into educational policies, curricula, and teaching practices. By doing so, adult education can catalyse preparing young adults to thrive in the AI-driven economy of the 21st century.

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