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BRIDGING KNOWLEDGE GAPS AND THE INNOVATIVE MANAGEMENT OF ADULT EDUCATION PROGRAMMES FOR SUSTAINABLE FUTURE IN RIVERS STATE, NIGERIA

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ABSTRACT
This paper examines bridging knowledge gaps and the innovative management of adult education programmes for sustainable future in Rivers State. The paper analyzes the existing knowledge gaps in Adult Education and Rivers State as well as strategies to build knowledge gaps. Conclusively, it explores innovative management strategies for a sustainable future. Rivers State can leverage adult education programmes in order to bridge critical knowledge and skill gaps by implementing innovative and integrated managerial strategies to achieve a sustainable future. This will not only empower its workforce but also build a more resilient and sustainable society capable of meeting the challenges of the 21st century. To address knowledge gaps and foster a sustainable future in Rivers State, adult education programmes must embrace innovative digital and blended learning strategies, provide access to vocational and technical skills for employment, cultivate facilitator specialized training, strengthen community participation, and invest in robust infrastructure, collaborative partnerships and policy support from Government and NGOs.

KEYWORDS: *Adult Education Programmes, Bridging Knowledge Gaps, Innovative, Management, Sustainable future.*

INTRODUCTION
Knowledge applies to facts or ideas acquired by study, investigation, observation, or experience.an awareness or understanding especially of an act, facts, information, skills, and understanding acquired through experience, education, or discovery (Merriam 2024). Knowledge from an educational standpoint includes both theoretical comprehension and real-world application. The depth and complexity of cognitive development are reflected in Bloom's taxonomy, which divides knowledge into several levels, from recall and comprehension to analysis, evaluation, and creation (Anderson & Krathwohl, 2001). This suggests that knowledge is dynamic and changes as a result of experience, application, and reflection.In philosophical, psychological, and educational contexts, knowledge is viewed as a dynamic process that aids individuals in comprehending and interacting with their surroundings. Knowledge is not merely information; rather, it is a fundamental concept that promotes learning, growth, and human existence.(Gettier, 2020; Nonaka & Takeuchi, 2023), In education, knowledge serves as both content and process. It guides teaching and learning, informs curriculum design, and shapes human development which empowers individuals to make informed decisions, solve problems, and contribute to sustainable development (UNESCO, 2022).

Bratianu (2023) stated that knowledge is dynamic and constantly evolving; Through continuous education, individuals develop the capacity to address social challenges, promote gender equality, and support environmental sustainability. Sustaining cities and communities is more than taking care of environments as most people think. It is about being socially aware, economically and also politically aware, which will culminate in wanting a positive change and transforming the awareness of those social-cultural realities into that positive change. It is about seeking solutions to challenges facing a group of people in their environment. Sustaining cities and communities include power utilization by making use of sunlight, maintaining good agricultural practices for growing food to sustain good health for people, preserving biodiversity, restoring ruined ecologies, waste management and developing communities that could be

sustained within nature's limit, so not meeting up to this becomes a problem (Akintayo in Kobani, 2022). Also, in generic terms sustainability is described as, a normative concept that indicates the way humans should act towards nature and the way they should be responsible towards one another and future generations (Baumgartner & Quass; Yigitcanlar & Dizdaroglu in Kobani, 2022). Mayer in Kobani (2022) perceives that the fundamental characteristic of sustainability is the idea of meeting the reasonable needs of the current generation while enhancing the lives and ecosystems of future generations. Sustainable development is thus, important in meeting fundamental human needs while preserving the critical life- support system of the planet. Allan in Yigitcanlar & Kamruzzaman in Kobani (2022) describes sustainable development as the development that satisfies the human needs and improves the quality of life in such a way that ecosystems should keep renewing. Elkington in Kobani (2022) subscribes to the fact that in approaching sustainable development, one should consider environmental quality, economic property and social justice. If all these are lacking in a community, it will hamper sustainable development of that community. Furthermore, technology is a strong tool for bringing sustainability to cities and communities. Traditional technology can be transformed to match the newly developed ones. Though, people in small communities who are least educated may not have much knowledge about modern technology but they should not be left out in this era of innovative technology. This is why the government of all nations especially the developing ones should focus on adult education programmes, there should also be established entrepreneurship programmes which should include short courses, trainings and on-the-job trainings in their various establishments because technology brings about collaboration, equity and it bridges the divide gap and accessibility gaps. Criminal activities pervade urban cities due to joblessness and those that have education are sometimes found to be unemployable due to lack of technological skills that can lead them into being functional, creative and innovative.

Luo, Liang, Wu & Yang in Kobani (2022) assert that in the era of knowledge economy, people pay more attention to lifelong education with the fast updating speed of knowledge and continuing emerging technologies. Adult education is thus, becoming an important indicator of technological development and social progress. There is thus, a close relation between the application and development of technology in adult continuing education which would lead to functionalism and innovation. Adult education is thus, central to bringing solutions to all these problems, including the problem of insecurity, which is the result of discontent that comes from widespread exclusion and intra-urban inequalities. Adult education is holistic as it provides for both young and old, it is lifelong in nature, it will thus, be sustainable if well-funded and well positioned in every nation of the world especially Nigeria because sustainable development is an age-long and all life issue. Adult education makes learners excited and motivated and well equipped. It is the type of education that has economic outcomes for participants both in cities and communities. A typical example is, making money out of wastes, planting gardens in modern ways and making money for personal and community sustainability.

Townsend-Coles in Kobani & Alozie (2016) could conceive adult education as all forms of educative experiences needed by men and women according to their varying interests and requirements at their differing levels of comprehension, ability and in their changing roles and responsibilities throughout life. Adult education is pragmatic and functionally related to needs of individual and society, whether short-term to long-term according to Kobani (2018). It is also change oriented in the area of felt-needs which it seeks to address. Adult Education Programmes include: Basic Literacy, Functional literacy, continuing education, Distance education, Adult remedial education, Aesthetic cultural & civic education, workers education, labour education, women education, Extension education, and so on (Kobani & Alozie, 2016).

Adult education with its programmes has environmental outcomes as people are made aware of keeping their environment safe, getting ready for disasters, locating their businesses in appropriate places, taking good care of their health and homes and their vehicles to prevent dangerous gas emissions. Through programmes like community education, awareness would be raised on diverse issues in cities and communities that are detrimental to people's health and development. Environmental education would enable people to make meaning out of their lives in cities and communities thus, transcending to peaceful and secured living. Adult education for sustainability has to do with mentality hence, everyone needs to cultivate the culture of living sustainably because sustainable development of communities and cities is about whole living as it involves knowledge, skills, values, attitudes and behaviours. All these are embedded in adult education bringing innovations and creativity to people in cities and communities. CIDA in Kobani (2022) outlined five aspects to the concept of sustainability:

1. Economic sustainability – appropriate economic policies, efficient resources allocation and a more equitable control over resource, and increased productive capacity among the poor.

2. Social sustainability – equitable income distribution, participation of intended beneficiaries.
3. Cultural sustainability – sensitivity to cultural factors including cultural diversity, recognition of values conducive to development
4. Political sustainability – premised on the assurance of human rights, promotion of democratic development and good governance.
5. Environmental sustainable – managing and protecting ecosystem to maintain diversity of life in both human – managed and natural system and protecting the environment from pollution to maintain the quality of land, air and water. It would be necessary to appraise or assess post- independence Africa in these core aspects of sustainable development. Key areas include digital literacy, community-based learning, environmental awareness, and vocational training to tackle unemployment and promote inclusive development.

Existing knowledge gaps in Rivers State

The term gap generally refers to a difference, deficiency, or disparity between two or more conditions, levels, or expectations. In academic and professional contexts, a gap often signifies a measurable distance between the current state and a desired or ideal state (OECD, 2023). In education, for instance, the concept of a knowledge gap or learning gap describes the disparity between what learners know and what they are expected to know at a particular stage (UNESCO, 2022). Adult education plays a crucial role in national development, social inclusion, and personal empowerment. However, significant knowledge gaps continue to exist among adult learners globally and Rivers State in particular.

Knowledge Gaps in Adult Education

Knowledge gaps among adult learners encompass deficits in literacy, digital skills, vocational competencies, civic awareness and sustainable development literacy. For instance, Owede (2022) notes that the implementation of adult and non-formal education for sustainable development is undermined by neglect, inadequate funding, and manpower shortages. Bridging such gaps requires targeted interventions aligned with learners' contexts and developmental needs. Despite decades of adult education efforts in Rivers State by the government, the Niger Delta Development Commission (NDDC), and other organizations, significant gaps persist. These challenges include:

- Digital illiteracy: Many adult learners, especially in rural areas, lack the digital skills needed for modern jobs and to access online learning resources.
- Inadequate funding: Adult education receives less government funding compared to formal schooling, leading to poor facilities, insufficient resources, and low morale among educators.
- Skill mismatches: The skills taught often do not align with the demands of the modern labour market, leaving graduates underemployed or unemployable.
- Low participation: Factors like poverty, high programme costs, rigid schedules, and cultural stigmas surrounding adult learning lead to low enrollment and high dropout rates.
- Administrative hurdles: Poor management, a lack of visionary leadership, and corruption at literacy centers further hinder effective programme implementation.

Strategies to bridge knowledge gaps

1. Digital Inclusion: There is need to address the digital divide by investing in e-learning platforms and providing access and training in digital literacy for adult learners in Rivers State.
2. Curriculum Innovation: There is need to develop programmes that integrate theory with practice, address learners' personal values, and are tailored to the local context to ensure relevance and impact.
3. Lifelong Learning: There is need to promote basic and functional literacy, alongside opportunities for continuous professional development and vocational training to help adults adapt to changing and demanding labour markets.

Innovative Management Strategies for a Sustainable Future

Adult education still has significant knowledge gaps among adult learners particularly in literacy, economic empowerment, and civic participation (Maduka & Nwabianke, 2023). Understanding the nature, causes, and implications of these knowledge gaps is critical for effective management of adult education programmes. Programme management in adult education involves planning, implementation, monitoring and evaluation, resource mobilisation, stakeholder engagement and continuous improvement. Maduka & Nwabianke (2023) argue that facilitators of adult and non-formal education must adopt innovative training programmes that integrate theory and practice and promote collaborative learning for sustainable development goals (SDGs). Innovation in this sector includes the following:

- Embracing technology-driven approaches: To bridge the digital divide and adapt to the post-COVID-19 learning landscape, adult education programmes must go digital. The global shift to digital learning highlights Nigeria's infrastructure gaps. UNESCO (2023) reports that only 30% of Nigerian adult learners have internet access, limiting e-learning for vocational training in Rivers State. This digital divide restricts programme scalability, as managers lack resources for online platforms.
- Blended learning models: There should be combination of face-to-face instruction with online resources to enhance accessibility and engagement. This is particularly effective for working adults with competing schedules.
- Mobile learning: There should be development of mobile-friendly resources and applications, which are highly accessible given the high rate of mobile phone usage in Nigeria.
- Generative AI: There should be the use of AI tools to create diverse learning materials that can be customized to individual learner needs and regional cultural contexts.
- Expand digital access: There should be partnerships with private-sector and telecommunication companies to reduce data costs and provide subsidized devices to learners in rural and underserved areas.

2. Implement adaptive and flexible policies

Adults often balance learning with work and family responsibilities, so rigid, traditional structures are not effective.

- Micro-credentials and certifications**:** Offer short-term, competency-based programmes that provide skills for immediate employment, focusing on practical and vocational training.
- Flexible schedules: Allow for self-paced courses, evening classes, and weekend workshops to accommodate the needs of diverse learners.
- Culturally relevant curricula: Develop programmes that address specific local challenges and incorporate local knowledge and culture to promote engagement and a sense of ownership among participants.

3. Foster strong stakeholder collaboration

No single entity can drive change in adult education. A multi-stakeholder approach ensures that programmes are adequately resourced, relevant, and sustainable.

- Public-private partnerships (PPPs): Secure consistent funding and investment from corporate sponsors, especially oil and gas companies operating in the state.
- Community engagement: Involve local and religious leaders and community-based organizations in the design and delivery of programmes. Establish community-based learning centers to increase participation.
- Inter-agency collaboration: The Rivers State Sustainable Development Agency (RSSDA) and NDDC should work with local communities to ensure that development projects are community-owned and sustainable.
- Align with workforce needs: Collaborate with industry leaders to align adult education curricula with emerging labour market demands. This could include technical training for the oil and gas sector or renewable energy initiatives.

4. Invest in Educators and support systems

Governments and stakeholders should make strategic investments in educational infrastructure, teacher training and relevant technology to improve adult education systems.

The quality of instruction and support is crucial for the success of adult learners.

- Professional development: Provide continuous training for adult educators on digital skills, innovative teaching methods, and adult learning psychology (andragogy).
- Create a supportive environment: Establish learner support services, including mentorship programs, career counseling, and assistance for those with disabilities or other barriers to learning.
- Empower facilitators**:** Ensure that teachers and facilitators are well-remunerated and motivated. The success of programmes depends on their commitment and engagement, focusing on innovative teaching methods, crises management and integrating technology into their instruction.

CONCLUSION

Adult education programmes in Rivers State hold immense potential to uplift communities not only in Rivers State but in Nigeria as a whole. However, they face knowledge gaps that manifest as global and societal barriers that weaken their management and growth. Limited technology and funding, combined with poor infrastructural development, professional expertise, corruption, gender gaps, programme access and impact are to mention are few of the challenges the system faces. This study highlights practical solutions to overcome these challenges: using low-cost digital tools,

partnering with businesses, raising community awareness, and offering mobile classes in community halls. These strategies can boost participation, especially among women, disadvantaged and displaced groups, while aligning with global education goals. Adult Education can only be a tool for a sustainable future when it is effectively and adequately managed through innovative and integrated programmes.

SUGGESTIONS

To ensure a sustainable future in Rivers State, knowledge gaps must be bridged through innovative management of adult education programmes that will pave the way for the following:

1. Empowerment and Development: Adults should be equipped with skills for economic empowerment, poverty reduction and improved standards of living, contributing to overall sustainable national development.
2. Environmental literacy: Environmental education should be integrated into adult education programmes to promote environmental stewardship including areas such as sustainable water , waste disposal, climate change awareness and action.
3. Resilience and responsiveness: Adult education programmes ensure that adults adapt and contribute to a changing world by building educational systems that are resilient to crises and responsive to global and local trends such as famine, war, climate change, gender inequality, and so on.

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