IJAAR PUBLISHING®
Global Journal of Artificial Intelligence and Technology Development | ISSN: 3027-0502
Vol. 3, Issue 1 (2025) | www.ijaar.org

ENVIRONMENTAL ADULT EDUCATION: A RESPONSE TO EMERGING ENVIRONMENTAL CHALLENGES FACED BY THE FAMILY

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Abstract

This paper attempts to study the Environmental Adult Education (EAE) as a response to the emerging challenges faced by families in Nigeria. The role of environmental literacy Education undisputedly cannot be over emphasized. EAE has potential and powerful benefits for extending educational opportunities especially in this global environmental challenge. EAE has the potential for increasing access to and improving the relevance and quality of familyhood. EAE can enhance the quality of education and family lives in several ways: by organizing community workshops and seminars, online environmental courses, eco – tourism and nature-based experiences increasing learner motivation and engagement, by facilitating the acquisition of basic skills and by enhancing teacher training and also by promoting digital literacy and skills. In 21st century teaching and learning skills underscore the need to shift from traditional teacher centered pedagogy to more learner-centered method, so that's why we need ICT facilities in our modern education system. Environmental education is concerned with complex systemic objects having countless internal and external connections, and requires complex studies of their structures an functions. For this reason the interaction of a number of approaches and strategies like; print and electronic media strategy, door to door and educational forums. But some challenges may discourage the family members and citizenry to be integrated in the environmental adult education (EAE) like- availability of infrastructure and access disparities in environmental educational institutions, maintenance of the machines involved, lack of awareness, pace of resistance to change and funding. This paper examined some findings and insights which can be distilled into practical guidelines

Ononeze, O. F., Opara, D. C., & Onoriode, O. S. (2025). Environmental Adult Education: A Response to Emerging Environmental Challenges Faced by the Family. *Global Journal of Artificial Intelligence and Technology Development. 3*(1), 70-80. DOI: 10.5281/zenodo.15283506

and optimal approaches for designing and executing environmental adult education programmes that empower adult family members to address environmental challenges effectively which are not limited to; relevance and contextualization, accessibility and flexibility, hands- on- learning, multi-modal teaching, advocacy and action, recognition and incentives, community engagements.

Keywords: *Environmental, Literacy Education, Emerging Challenges, the family*

INTRODUCTION

Our environment is deteriorating by the day due to human activities and other natural occurrences like industrial activities impact that has caused so much hazard and threat to family's health, economic, social psychological and even spiritual way of lives. The high cost of goods and commodities is not exception, all these are as a result of effects of human activities on the environment. Pollution is everywhere, waste are not properly managed, wild life and forest are no more, the rivers and the aquatic lives are all destroyed, before now, that is in years back, families depends on the water from the streams and rivers but today, all that is gone. Those in agriculture has little or almost nothing to take home as harvest due to the fact that, soil is no longer yielding as it used to before the discovering of oil in southern part of Nigeria, the problem of over population and high rate of death in the case of child maternal calls for concern as well (Ononeze, 2023).

Meanwhile, as global environmental challenges become more pronounced, families increasingly face significant impacts from issues such as climate change, pollution, and resource scarcity. In response to these challenges, environmental literacy education has emerged as a vital strategy for empowering families to make informed and sustainable choices. Environmental literacy encompasses not only knowledge about environmental issues but also the skills and motivation to act upon this knowledge effectively (O'Brien et al., 2023).

Recent research underscores the importance of integrating environmental education into family life, highlighting how such education can enhance resilience and adaptive capacity in the face of environmental stressors (Kumar & Tiwari, 2023). Families with higher levels of environmental literacy are better equipped to implement sustainable practices, advocate for policy changes, and support broader community efforts aimed at environmental conservation (Williams & Garcia, 2024).

Moreover, fostering environmental literacy within the family unit can lead to a more informed and proactive society. By nurturing an understanding of environmental issues and promoting eco-friendly behaviors, families contribute to both immediate and long-term sustainability goals, thereby addressing the pressing challenges of our time (Smith et al., 2023). This paper examines the role of environmental literacy education in responding to emerging environmental challenges and explores effective strategies for its implementation within the family context.

The impact of ozone layer effect on man, plants and animal is alarming these days. Live span has reduced, difficulties in meeting family member's daily needs is so challenging especially in basic need like food, shelter, clothing, security and education is not left out. The layer of ozone prevents the radiation from the sun from having a direct contact with Man and other living organisms on earth by absorbing the radiation (Bell-Gam &Oyebamiji 2022). Our

environment is our community and our community is our environment, a good number of these activities are carried out by man for man and through man and the impact or effect also bounce back on man. And the worst part of it all is fact that the effect of these activities and state of this environment affects family members lives in a very high degree, thus: the need for environmental literacy education as best and fastest means of managing, sustaining, controlling and restoring normalcy, lost glory, joy and happiness to families in the communities.

A Conceptual Discourse of Environmental Adult Education

Adult

According to Omolewa (1981) in Onyishi (2010), adult education is one of the most difficult concepts to define. This according to Fasokun (2006) is because adult education means different thing to different people. The confusion in the meaning of adult education arises from the variations in interpretations of the roles adult education performs in different societies, in different sectors of the national economy and at different levels of national development (Adekola, 2008).

Adekola (2008) further stated that many terms are used interchangeably with the term adult education. For instance, while adult education may mean basic literacy, extra mural studies, or mass education for community development in a developing nation like Nigeria, it may mean workers education or liberal education for relaxation or entertainment in advanced countries. Irrespective of the seeming diverse view on what is adult education, attempt will be made to considered a few. Omolewa (1981) and Aderinoye (1997) in Onyishi (2011) described adult education as an organized and sequential learning experience designed to meet the felt needs of the adults. Similarly, Onyishi (2011) described adult education as any education given to adults based on their social, political and cultural and economic needs or problems to enable them adjust fully to changes and challenges in their lives and society. In another definition, Merrian (1982) in Olori (2015) described adult education as concerned.

Environmental Adult Education

Environmental adult education is expected to bring about awareness and sensitization of the environmental issues and challenging problems faced by the family in the society. In this sense the family will be aware of what the environment is, how man is related to the environment, the activities man carries out in relation to the environment, the consequences of man's actions towards the environment and man; and the possible solutions that should be involved in order to encourage the sustainability of the environment. This very challenge is found where people claim to be ignorant of what they are doing hence both the big and the small and even all that matter in the society get involved in the devastation of the environment in their various ways. Today, we talk about acid rain; the causes cannot be exonerated from literate and elite members of the society. The issue of black soot is a problem today; the blame is on the foot soldiers around the creeks and bushes of our communities. The elites in the society are not left out of it because of their interest in bunkering which is not a common man's issue; so who do we blame as the actual perpetrators? (Kpeno 2022).

One of the believable ways to tackle the emerging challenges of the environment should no doubt involve environmental adult education awareness to various families in the communities, and this is as a precondition for environmental quality. This underscores the fact that environmental adult education will most likely improve public awareness, reduce

unfriendly attitudes towards the environmental habitat and develop management skills that will improve the strategies that will minimise these environmental challenges faced by the family.

Mbalisi (2016) defines environmental adult education as the application of the theories, principles, programmes, methodologies, approaches and resources (human and material) of adult education in educating adults about the environment and its associated resources with the conscious intention of developing in them knowledge, attitudes and skills required to generate a sense of responsibility and commitment towards the solving of the present environmental challenges and the prevention of future ones. Using the environmental adult education to cushion the effects of these emerging environmental challenges and to encourage sustainable eco-friendly environment. Eheazu (2009) and UNESCO (2021) as cited in Ononeze (2023) agreed that the objectives of environmental education include the following;

1. Creating the awareness about environmental problems among people.

2. Imparting basic knowledge about environment and its allied problems.

3. Developing an attitude of concern for the environment.

4. Motivating the public to participate in environmental protection and environment improvement.

5. Acquiring skills to help the concerned individuals in identifying and solving problems.

UNESCO goes further to stipulate that the guiding principles of environmental education should be as follows;

1. Environmental Education should be compulsory, right from the primary up to the post graduate stage.

2. Environmental Education should have an interdisciplinary approach by including physical, chemical, biological as well as socio-cultural aspect of the environment. It should be a bridge between biology and technology.

3. Environmental Education should take into account the historical perspective, the current and the potential historical issues.

4. Environmental education should emphasize the necessity of seeking international cooperation in environmental planning.

5. Environmental education should emphasize the importance of sustainable development i.e, economic development without degrading the environment.

6. Environmental education should lay more emphasis on practical activities and first hand experiences.

In light of the increasing urgency to tackle emerging environmental challenges like climate change, biodiversity loss, and resource depletion, there exists a notable deficiency in comprehending the efficacy of environmental adult education in preparing adults with the requisite knowledge, competencies, and motivation to address these critical environmental issues. This research seeks to examine the existing landscape of environmental adult education initiatives and their effectiveness in enhancing adult learners' ability to respond to

pressing environmental challenges. The study aims to pinpoint areas requiring enhancement and identify optimal strategies and practices in adult environmental education.

ENVIRONMENTAL ADULT EDUCATION (EAE) PROGRAMMES

There are various environmental adult education programs and initiatives designed to enhance the understanding, awareness, and skills of adults concerning environmental challenges. Some examples include:

1. Community Workshops and Seminars: These programs bring experts and community members together to discuss local environmental challenges and solutions. Workshops often include hands-on activities and discussions.

2. Online Environmental Courses: Many universities and organizations offer free or low-cost online courses on environmental topics. These courses can be accessed by adults at their convenience, allowing for self-paced learning.

3. Environmental Outreach and Awareness Campaigns: Non-profit organizations often run awareness campaigns that target adults through social media, events, and community outreach to educate them about specific environmental issues (STEM, 2019).

4. Citizen Science Programs: These initiatives engage adults in scientific research projects related to the environment. Participants can contribute valuable data while learning about environmental science.

5. Eco-Tourism and Nature-Based Experiences: Some programs combine environmental education with travel and experiential learning. Participants engage in eco-tourism activities while learning about local ecosystems and conservation efforts.

6. Environmental Certification Programs: These programs provide adults with certification in areas like sustainable agriculture, green building, or renewable energy. They equip individuals with practical skills and knowledge.

7. Environmental Discussion Groups: These are informal gatherings where adults meet regularly to discuss environmental issues, share ideas, and learn from each other. They can be organized locally or online.

8. Conservation Volunteer Programs: Organizations like wildlife reserves, national parks, and local environmental groups often recruit volunteers to participate in conservation activities, fostering hands-on learning experiences.

9. Environmental Mentorship Programs: Pairing adults with mentors who have expertise in environmental fields can provide personalized guidance and support for learning and skill development.

10. Corporate Sustainability Training: Some companies offer sustainability training programs to employees, enhancing their environmental awareness and promoting sustainable practices in the workplace.

11. Environmental Literacy Programme: Environmental literacy simply is the process whereby people are exposed to understand issues in their environment in other to develop skills for solving the problems. Roth as cited in (Bell-Gam & Oyebamiji 2022), in his opinion opines that environmental Literacy is a set of understanding skills, attitudes and habits of mind that compels individual to relate with their environment in a

positive fashion and to take day-to-day and long-term actions to maintain or restore sustainable relationship with other people and the biosphere.

These programs vary in format, focus, and accessibility, making it possible for adults to choose the ones that align with their interests and needs while contributing to a broader understanding of environmental issues and solutions.

Certainly, factors that either hinder or facilitate adult participation in environmental education can be complex and multifaceted, influenced by various social, economic, cultural, and educational factors. Here's an exploration of these factors:

Facilitating Factors For Participation in environmental education

1. Relevance of Content: When environmental education programs address issues directly affecting adults' lives, families or communities, such as local pollution or sustainable agriculture, it can increase engagement as adults see the direct impact on their well-being.

2. Accessibility: Programs that are easily accessible, whether through convenient locations, online platforms, or flexible scheduling, are more likely to attract participants.

3. Incentives and Rewards: Financial incentives, certificates, or tangible rewards for participation can motivate adults to engage in environmental education.

4. Peer and Social Support: When individuals can participate alongside friends, family, or peers, it can create a sense of community and encourage participation.

5. Cultural Relevance: Tailoring programs to align with cultural values and beliefs can make environmental education more relatable and appealing to specific communities.

6. Hands-On Learning: Practical, hands-on activities and field experiences can enhance learning and engagement, especially for adults who prefer experiential learning.

ENVIRONMENTAL EDUCATION DELIVERY STRATEGIES

Ononeze (2023) in his work "Education Delivery Strategies for Effective solid Waste Management Among Urban Dwellers in Abia State" identified the following as the strategies to environmental education delivery:

1. Print media strategy: this is the most widely used information dissemination strategy in the world today, hence the definition given by the commission of definition and terminology which sees educational print media as those which are manipulated, seen, read, and talked about plus the instrument which facilitate such activities. Oyebamiji (2013) corroborated that the print media include, printed papers, textbooks, reference books, workbooks, chats, posters, flyers etc. Environmental news is a potent force for a responsible environmental behavior.

2. Electronic Media: this is the dissemination of information that involves electronic transmission. To Ezimah (2009) radio as an educational media method is used to apprise the public of current events through news broadcasts, commentaries and programmes of serious intent, although produced in a manner likely to evoke an interest in the widest possible audience.

Clarke (2014) is of the opinion that after the liberalization and the advent of internet, the role played by media channels in English and vernacular language can't be overestimated while the audience are constantly bombarded with 24x7 news. The fact that media is highly liked can create an overwhelming response and impact among the audience for the emerging environmental challenges.

With effective media coverage, we can ensure a proper planned strategy and that the environment is highly sustained by doing these things;

* More visual content on the proper waste disposable, effects of bush burning in the environment and other environmental challenges.

* Campaigns in a long-run should be practiced with support of local authorities. Constitutional policies should be strongly enacted and publicized for actual practice.

* Adequate training, healthy payment system with supporting perks should be emphasized for health and environmental workers.

* Situational adoption of technology and personnel creating awareness regularly on the media shall surely bring the desired change.

3. Door to Door Visits: It's a common knowledge that the environmental health workers of various local government areas visit residents in their homes inspecting and educating them on how to manage their family immediate environment. These officers are otherwise called sanitary inspectors, they help to boost the cleanliness of the environment in the good old days. When it is announced that these inspectors are coming to a particular community or village, a lot of preparations are made including tidying up every corner of the environment and every litter evacuated to avoid prosecution by the inspectors ('Ndi Ole Ala' in Igbo language)

4. Educational Fora: it has been noticed these days that the fight against the mishandling of the environment has been taken to schools and other educational fora, that is why you hear of such clubs as, save the environment, friends of the Earth and so many others. The educators go to schools and organize seminars and workshops for people to be aware of the dangers in the mishandling of the environment. It is strongly believed that school environmental management strategy Wil help inculcate in the students the attitude to have environmental values due to different home upbringing. Acho (2005) agreed that the regular grass clearing, sweeping of the school compound, landscaping, planting of flowers, good drainage and good refuse disposal habit will go a long way to promote environmental literacy.

Hindering Factors for Adult Participation in Environmental Programmes

1. Time Constraints: Adults often have busy schedules with work, family, and other commitments. Lack of time can be a significant barrier to participation in environmental education programs.

2. Financial Constraints: Some programs may have associated costs, including tuition or travel expenses, which can deter participation, particularly for those with limited financial resources.

3. Lack of Awareness: Adults may not be aware of available environmental education opportunities or their potential benefits, leading to a lack of interest or participation.

4. Educational Background: Low levels of formal education or literacy can be a hindrance, as individuals may feel overwhelmed by complex scientific concepts or materials.
5. Cultural and Language Barriers: Programs that do not consider cultural and linguistic diversity may exclude certain groups, making it difficult for individuals from these backgrounds to participate.
6. Perceived Irrelevance: If adults do not perceive environmental issues as directly affecting their lives or do not believe they can make a difference, they may not see the value in participating in educational programs.
7. Negative Social Norms: Cultural or social norms that discourage environmental activism or education can hinder participation, as individuals may fear social stigma or ostracization.
8. Disconnection from Nature: Individuals who have limited exposure to nature or live in urban environments may have less interest in environmental education, as they may not feel a strong connection to the natural world.

Understanding these factors is crucial for designing effective environmental education programs that can overcome barriers and leverage facilitators to engage a diverse range of adult learners in addressing environmental challenges. Tailoring programs to specific demographics and addressing these hindering factors can lead to more successful outcomes in environmental education.

The study's findings and insights can be distilled into practical guidelines and optimal approaches for designing and executing environmental adult education programs that empower adults to address environmental challenges effectively:

1. Relevance and Contextualization: Ensure that program content is relevant to participants' daily lives and community contexts. Tailor environmental education to address local environmental challenges, making the connection between learning and practical application clear.
2. Accessibility and Flexibility: Make programs accessible by offering a variety of formats, such as in-person, online, or blended learning. Provide flexible scheduling options to accommodate adults' busy lives.
3. Hands-On Learning: Incorporate hands-on activities, field trips, and real-world projects into the curriculum to facilitate experiential learning. These experiences help adults apply theoretical knowledge to practical situations.
4. Inclusivity and Cultural Sensitivity: Recognize and respect cultural diversity. Develop programs that are culturally sensitive and inclusive to ensure that participants from various backgrounds feel valued and included.
5. Community Engagement: Foster a sense of community by encouraging peer-to-peer learning and collaboration. Establish forums or discussion groups where participants can share experiences and ideas related to environmental issues.
6. Clear Learning Objectives: Define clear learning objectives and outcomes for each program. Participants should know what they can expect to learn and achieve by the end of the program.

7. Multi-Modal Teaching: Utilize a variety of teaching methods, including lectures, discussions, multimedia, and guest speakers, to cater to different learning styles and preferences among adult learners.

8. Recognition and Incentives: Offer certificates or other forms of recognition for program completion to motivate and acknowledge participants' efforts. Consider incentives, such as discounts on eco-friendly products or access to community resources.

9. Continuous Evaluation and Adaptation: Regularly assess program effectiveness through feedback mechanisms and evaluations. Adapt the curriculum based on feedback and changing environmental challenges.

10. Lifelong Learning: Encourage a lifelong learning approach by providing follow-up resources and opportunities for continued engagement with environmental issues even after program completion.

11. Advocacy and Action: Empower participants to become advocates for environmental change within their communities. Encourage them to take concrete actions, such as organizing local clean-up events, promoting sustainable practices, or engaging with policymakers.

12. Partnerships and Resources: Collaborate with local organizations, government agencies, and experts to access additional resources, funding, and expertise to enhance the program's impact.

These guidelines and approaches can serve as a roadmap for designing and implementing environmental adult education programs that equip adults with the knowledge, skills, and motivation to proactively address environmental challenges in their communities and daily lives, fostering a more environmentally conscious and empowered adult population.

Conclusion

Contemporary practices that affect and challenge the environment at the detriment of the lives and properties of the family have shown itself as the emerging environmental challenges that need solutions. These solutions can be found as environmental adult education programmes which are introduced to respond positively to these warring environmental challenges. With the quality of environmental adult education programmes, objectives and principles; EAE is the veritable tool to salvage the environment from its total collapse. EAE has programmes of educating adults about the environment as it could approach the adults in variations and engage them to acquire the knowledge to become environmentally literate as they are taken through the stages levels of environmental Literacy. When the adult citizens become environmentally literate, they will be able to advocate for the environment and our society, experiences about the environment will be optimally reduced to the barest minimum.

Based on the foregoing discussions the following suggestions are made;

1. Environmental adult education practitioners should take their programmes to the rural areas thereby spreading awareness of eco-friendly activities to ameliorate the effects of the emerging environmental challenges faced by the family.

2. Government should make and enforce policies on the unfriendly activities- like pollution, indiscriminate dumping of refuse, bush burning, indiscriminate falling of trees by some citizens and Industries that could harm the environment.

3. Incentives should be given to environmental adult education practitioners to motivate them on the EAE program dissemination.

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