

## Qualitative Education as a Strategy for Sustainable Development

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### Abstract

In a globalizing world of limited resources and unlimited ingenuity, colleges and universities play a vital role in preparing students to meet the sustainability challenges. The imperatives of sustainability point not only to new course content, but also to new ways of teaching that content. As a project with relevance across discipline, sustainability presents a valuable paradigm for rethinking pedagogy. Progress across Africa to get all children in school and learning has stalled. If nothing is done to reverse current trends, there will be millions more children out of school in Africa in 2025 than there are today. Africa needs a new paradigm shift. Education planners have to look beyond counting the number of children sitting in classrooms and focus on learning for sustainability, quality teacher recruitment and training. Education participation rates in many African countries are low. There are acute shortages of infrastructures and facilities at all levels of education; universities suffer from overcrowding and staff being lured away to western countries by higher pay and better conditions. The essence of this article was to present an analytical synthesis of issues confronting the educational system especially in Nigeria, and spell out the need for sound qualitative primary, secondary and tertiary education as a foundation for sustainable development. The review was with the view to suggest measures that could increase the level of productivity. Findings indicate the poor state of education. The paper highlights the etymology, history of education, the state of education in Africa, suggests teaching and innovative learning strategies for sustainable development and advocates for a change of educational culture, one which develops and embodies the theory and practice of sustainability. There should therefore be a transformative paradigm which values, sustain and realize human potential in relating to the need to attain and uphold socio-economic well-being. Various Government bodies should provide materials and training opportunities for teaching the principles of sustainable development.

### Keywords:

Qualitative,  
Education,  
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## **Background to the Study**

### **Etymology and History of Education**

Education is the process of facilitating learning; it is the acquisition of knowledge, skills, values and habits. The word education is derived from the Latin version *educato* meaning bringing up or rearing. Education began in prehistory as adults trained the young in the knowledge and skills deemed necessary in the society. In pre-literate societies this was achieved orally and through imitation. Story telling passed knowledge, values, and skills from one generation to the next. As culture began to extend their knowledge beyond skills that could be readily learned through imitation, formal education developed. Schools existed in Egypt at the time of the middle age. Plato founded the academy in Athens, the first institution of higher learning in Europe in 428/427 BC. The city of Alexandria in Egypt, established in 330 BC, became the successor to Athens as the intellectual cradle of ancient Greece. There, the great library of Alexandria was built in the 3<sup>rd</sup> century BC. European civilization suffered a collapse of literacy and organization following the fall of Rome. The medieval universities of western Christendom were well-integrated across all of Western Europe, encourage freedom of inquiry, and produced great variety of scholars and natural philosophers, including Thomas Aquinas of the University of Naples, Robert Grosseteste of the University of Oxford an early expositor of a systematic method of scientific experimentation.

The renaissance in Europe ushered in a new age of scientific and intellectual inquiry. In most countries today, full-time education, whether at school or otherwise, is compulsory for all children up to a certain age, due to the proliferation of compulsory education, combined with population growth, UNESCO has calculated that in the next 30 years more people will receive formal education than in all of human history thus far (the free encyclopedia, 2016)

Education should lead forth and unfold the power of the mind. This means that education should lead to the development of the educated potentials to improve one's-self and the society. It leads to the individual's personality development which is comprised of physical, intellectual, moral, social, economic, spiritual dimension as well as national development. Education that can leads to development of individual and his society, therefore, has to emerge out of the society's environment and its learning process must be related to the life and patterns of work in the society.

### **The State of Education in Africa**

It is unfortunate that of Africa's nearly 128million school-age children, 17million will never attend school. Perhaps even more shocking is the fact that another 37million African children will learn so little while they are in school that they will not be much better off than those kids who never did attend school. As a consequence, the prognosis for Africa's future economic growth and development is poor (Justin, 2012). Schools in Africa are mostly characterize by provision of poor or non-existent children infrastructure and little or no provision of other critical services. Then in turn negate the impacts of the quality of education. Even those children who go to school are often badly taught. These young people are not in the position to compete with their peers in a global context. Globally there are still 67 million children out of school, 43% of whom live in Africa. Every year 10million drop out of school in sub-Saharan Africa. currently there are 400 million 12-17 years olds not in school across the world. CUE estimate that 61 million Africa children will reach adolescence lacking even the most basic

literacy and numeracy. Failure to tackle the learning deficit will deprive a whole generation of opportunities to unfold their potential and escape poverty and it will undermine prospect for dynamic growth with shared prosperity. For a glimpse into Africa's education crisis there is no better vantage point than the town of Bodinga in the impoverished savannah region of Sokoto state in north western Nigeria. Drop into one of the local primary schools and one will find more than 50 students crammed into a class, just a few will have textbooks. If the teacher is there, and they are often absent, the children will be on the receiving end of a monotone recitation geared toward rote learning. More than 80% of Sokoto's grade 3 pupils cannot read a single word. They go through zero value-added schooling. Over half of the state's primary school age children are out of school. Bodinga's schools are a microcosm of a wider crisis in Africa's education (Igbuzor as cited in Dawodu, 2015). Access to basic education is inhibited by gender issues and socio-cultural beliefs and practice. Statistics (UNICEF, 2015) indicate glaring imbalance against girls in enrolment and completion rate.

### **The State of Education in Nigeria**

Nigerian education has been experiencing a geometric setback and its pathetic situation has always been an issue of discussion over the years. The Nigerian education sector is bisected by a myriad of problems (Odia & Omofonmwan, 2007). The first and perhaps the greatest challenges facing Nigeria and making it difficult for good quality education that is capable of bringing about sustainable development is inadequate funding by the federal, state and local governments to the extent that funding has been in response to conditionalities imposed by international financial institutions (Mahmoud, 2013). The problem with the Nigerian educational system is that it is a product of the "Nigerian system" from the perspective of pervasive corruption, erosion of value system, lack of good governance, bad policy implementation and the over importance placed on certificates.

Regardless of the incontrovertible evidence that education is crucial to the development of the nation there remain inequalities in access to education. The delivery of education in Nigeria has suffered from years of neglect, compounded by inadequate attention to policy frameworks within the sector. The national literacy rate is currently 57 percent. Some 49 percent of the teaching force is unqualified. There are acute shortages of infrastructure and facilities at all levels. Access to basic education is inhibited by gender issues and socio-cultural beliefs and practices. Wide disparities persist in educational standards and learning achievement (Igbuzor, 2006). Nigerian schools at all levels are lacking the essential materials for learning, especially for science practical classes. This no doubt affects the learning process. Most secondary schools lack science materials, and those that claim to have are managing the old ones. Hence, the students only cram theoretical steps rather than carry out practical. At tertiary level, there is little or no practical classes the lecture method dominates. The Nigerian education sector is in dire straits and requires both public and private sector interventions.

### **Qualitative Education**

A good quality education is one that provides all learners with capabilities they require to become economically productive, develop sustainable livelihoods, contribute to peaceful and democratic societies and enhance individual well-being. The learning outcomes that are required vary according to context but at the end the basic education cycle must include

threshold levels of literacy and numeracy, basic scientific knowledge and life skill. Capacity development to improve the quality of teachers and other education stakeholders is crucial throughout this process. In contextualization and relevance, quality education cannot be based on a blueprint that is applicable in all situations. Solution and adaptation must be based on the real needs of a country and for the community. Quality education puts the child in the center and helps it to reach his or her full potential and take action for sustainable development. Education for sustainable development consequently prompts competencies like critical thinking and making decisions in a collaborative way. The goal of sustainable development is to enable all people throughout the world to satisfy their basic needs and improve the quality of their lives without compromising the quality of life for future generations. Education for sustainability is a transformation learning process that equips students, teachers, and school systems with the new knowledge and ways of thinking we need to achieve economic prosperity and responsible citizenship while restoring the health of the living system. Education for sustainability is the continual refinement of the knowledge and skills that lead to an informed citizenry that is committed to responsible individual and collaborative actions that will result in an ecologically sound, economically prosperous, and equitable society for present and future generations. The principles underlying education for sustainability include, but are not limited to, strong core academics, understanding the relationship between disciplines, systems, thinking, lifelong learning, hands-on experimental learning, community-based learning, technology, partnership, family involvement and personal responsibilities.

#### **Quality Education Includes:**

1. Learners who are healthy, well-nourished and ready to participate and learn, and supported in learning by their families and communication.
2. Environment that is healthy, safe, protective and gender sensitive, and provides adequate resources and facilities.
3. Content that is reflected in relevant curricula and material for the acquisition of basic skills, especially in the area of literacy, numeracy and skills for life.
4. Processes through which trained teachers use child-centered teaching approaches in well-managed classrooms and schools and skillful assessment to facilitate learning.
5. Outcomes that encompass knowledge, skills and attitude and are linked to national goals for education and positive participation in society.

#### **Education for Sustainable Development**

Education for sustainable development allows every human being to acquire the knowledge, skills, attitude and values necessary to shape a sustainable future. Education for sustainable development means including key sustainable development issues into teaching and learning. It also requires participatory teaching and learning methods that motivate and empower learners to change their behavior towards sustainable communities, provide a means for creating a more highly skilled and globally competitive workforce and developing a more highly skilled and globally competitive workforce, and developing a more informed, active, responsible citizenry. Education for sustainability can be achieved in the following ways:

- 1) Education for Sustainability must involve everyone: education for Sustainability should involve both the school and the community. Educators at all levels should teach beyond school walls. They should involve parents, industry, communities and government in the education process. Colleges and universities should work with other schools and communities to deliver information, identify questions for research, and provide direct services to help solve community problems.
- 2) Education for Sustainability emphasizes relationship between formal and non-formal education. It thrives in all types of classrooms exposing students to local, state, national and international issues through hands-on, experiential learning in alternative educational environments. Non-formal education settings, should provide opportunities to complement and build on classroom learning.
- 3) Education for Sustainability is practical: education for sustainability helps student apply what they have learnt to their daily lives: it engenders a sense of efficacy. Part of sustainability education is learning citizenship skills and understanding that citizens have the power to shape their lives and their communities in light of their vision of a healthy and prosperous future.
- 4) Education for Sustainability is lifelong: continual effects should be made to institute programs about Sustainability in a variety of arenas, including the workplace and community centers and through the media. A citizenry knowledgeable about the benefits of Sustainable living will have the capacity to create and maintain lasting change. Benefits to the individual include an understanding of and ability to participate in the social and economic changes that will affect their lives. For example, many communities have used planning processes that engage citizens in defining a desired future plan for their community. Using their plan, citizens work to achieve a Sustainable future for themselves, their children and their community.

Through education and lifelong learning, we can achieve life styles based on economic and social justice, food security, ecological integrity, sustainable livelihoods, and respect for all life forms and strong values that foster social cohesion, democracy and collective action. Education for Sustainability goes beyond providing information about the environment. It is seen as a process which motivates and engages people in creating Sustainable futures. It is not only a process which builds competence but also a change strategy which will assist people and organizations to move towards Sustainability.

### **Components of Education for Sustainability**

1. **Envisioning a better future**  
Establishes a link between long term goals and immediate actions and motivates people to action by harnessing their deep aspirations.
  - i. Identifies relevance and meaning for different people
  - ii. Explores how to achieve change
  - iii. Offer direction and energy to take action
  - iv. Results in ownership of vision, processes and outcomes.
2. **Critical thinking and reflection**  
Challenges use to examine and question the underlying assumptions that shape our world, knowledge and opinions by looking beneath the symptoms of unsustainable practice.

- i. Develops the ability to participate in change
  - ii. Provides a new perspective
  - iii. Promotes alternative ways of thinking
3. Participation
- i. Goes beyond consultation, involving people in joint analysis, planning and control of local decision
  - ii. Puts decision making and responsibility for outcomes in the hands of the participants
  - iii. Creates a greater sense of ownership and commitment to action
  - iv. Builds capacity for self-reliance and self-organization
  - v. Empowers individuals to take action
4. Partnership for Change  
Strengthens ownership and commitment to Sustainability action through formal and informal opportunities for learning.
- i. Builds a shared vision amongst a diverse range of stakeholders
  - ii. Motivates and adds value to initiatives
5. Systemic thinking  
Recognizes that the whole is more than the sum of its parts, and is a better way to understand and manage complex situations
- i. Identifies connections and relationship
  - ii. Shift thinking from things to processes
  - iii. Integrates decision-making and adaptive management techniques

### **Education for Sustainability**

Education for sustainability facilitates change by:

1. Working in conjunction with and complementing other approaches
2. Fostering new knowledge
3. Building capacity in individuals and organizations for transformational change
4. Fostering new behaviours, systems and practices
5. Emphasizing creative, critical and innovative approaches

### **Teaching and Learning Strategies for Sustainability**

- 1) Deep learning  
Deep learning is a key strategy by which student's extract meaning and understanding from course material and experiences. Because of the range and interconnectedness of environmental, social and economic issues, and the importance of interdisciplinary relevant in the context of education for Sustainability (Warburton, 2003)
- 2) Active learning  
Active learning strategies which use methods that can accommodate conceptually and partially diverse data and divergent epistemologies are needed. Role play-



simulation, online debate and scenario building are active, participatory instructional strategies that can be applied in a subject about technology assessment within the society (Melaughlan, 2007).

- 3) Peer engagement and support  
Engaging student in group discussions and projects in which they have the opportunity to dialogue allow for moments of problem-solving, debate, analysis, teamwork and reflection crucial to developing critical thinking.
- 4) Student analysis of data  
Students may learn about a given environmental problem through analysis of empirical data rather than receiving per-digested analyses from lectures or secondary source. In doing so they will not only grapple with methodological and theoretical issues of data analysis and presentation but they will be empowered to examine issues with greater nuance and insight.
- 5) Daily re-looping of previously learned material  
A process of always bringing in previously learned material to build on each day so that students have a base knowledge to start with, for learned structures are constantly reinforced.
- 6) Ecological approach  
Involves all aspects of a child's life, including classroom, family, neighborhood, and community, in teaching the child useful life and educational skills.
- 7) Explicit vocabulary building through random recurrent assessment  
Using brief assessment to help students build basic subject-specific.
- 8) Graphic organizers:  
Visual displays to organize information into things like flow charts and webs. These help students to consolidate information into meaningful whole and they are used to improve comprehension, organization of writing, and understanding difficult concepts in word problems.
- 9) Hands-on, active participation  
Designing activities so that students are actively involved in the project or experiments.
- 10) Mnemonics  
Association technique used to help students remember facts.
- 11) Model-lead-test strategy instruction (MLTI)  
A stage process for teaching students to independently use learning strategies.
- 12) Modeling/teacher demonstration  
Teacher demonstrates how to do a laboratory test or experiment before having the students try it on their own.

- 13) Using visuals  
Bringing two or three dimensional visuals into the classroom to enhance teaching instruction.
- 14) Think-aloud  
Using explicit explanations of steps of problem solving through teachers modeling met cognitive thought.
- 15) Students generate word problem.  
Have students create word problems for a specific subject skill. Through the construction of a problem the student learn what to look for when solving life problems.
- 16) Relate reading to students experience  
Having student talk about connections in the reading and relate it to their own experience.
- 17) Reciprocal Peer Tutoring (RPT)  
Having student pair, choose a team goal to work towards, tutor each other on subject problems and then individually work a sheet of drill problems. Student get point for answer and work towards a goal.
- 18) Pre-teaching the organization of the text/unit organizers.  
Point out and getting students to discover the different parts of the text that can be used in learning. Also familiarizing the student with the layout of the text.
- 19) Monitoring of progress through group and individual achievement awareness charts.  
Using charts to build awareness and motivation of progress for student.
- 20) Problem solving instruction  
Explicit instruction in steps to solving mathematical or science problem including understanding question, identifying relevant and irrelevant information choosing a plan to solve a problem, solving it.
- 21) Teaching with research based methods  
Teaching with research based methods increases students engagement and understanding of material.
- 22) Guided discovery problems.  
Guided discovery problem lead students through a progression of questions with supporting diagrams from simple to complex to build student understanding of a concept as they discover it themselves.



- 23) Campus based learning  
Campus based project can provide hand-on-real-world projects that can be accomplished without field trip budget.
- 24) Civic engagement and service learning.  
Connecting student with community members to conduct scientific experiments in concepts similar to what the teacher is going to teach.

### **Conclusion**

Current educational systems in Africa have failed to provide students with the skills and knowledge they need to adapt to a future of uncertainty and change. Africa is facing a severe shortage of highly skilled Africa talents. Governments must make concerted effort to correct this serious mismatch between skills of college, university and other tertiary institutions graduates and the demands of a local and global workforce. Efforts must be focused on expanding access and improving the quality of education to meet the needs of today's workforce towards sustainable development.

### **Recommendations**

1. Curriculum developers at both national and local levels should ensure the design of a holistic and relevant curriculum with learning approaches and materials that promote transformative learning aimed at fostering capacities for life-long learning and for secured employment and livelihoods.
2. Teaching dimension of the curriculum should establish clear and progressive learning objectives in addition to giving clear directions on assessment approaches and the content of assessment.
3. Teaching and learning processes that engages students in collaborative learning projects that apply critical analysis and problem solving aimed at addressing real-life problems to support development of transformative skills should be adopted.
4. Local relevance and cultural appropriateness of the curriculum content and structure should be emphasized.
5. There should be teacher competency building through training on pedagogies and learning methodologies.
6. There should be safe and effective learning environments providing dynamic opportunities for engaged, experience-based learning.
7. Government should transform schools into hubs for community learning, local participation, contextualize learning opportunities to meet local needs.
8. Government should Invest in human capital to increase the ability to absorb and use knowledge and invest in technologies to facilitate both acquisition and the absorption of knowledge.
9. Government should make sure that schools are equipped with functional libraries and laboratories, with classrooms having modern instructional technologies; computers connected to the internet, projectors, audio-visual and video conferencing equipment.

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