Transformative Education:
A Tool for Sustainable Educational Development in Nigeria

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Abstract
Education is the key to human development and progress; an indispensable tool for a nations' growth and overall development. In order to proffer workable solutions to some contending issues in our educational sector; this study examined the concept of transformative education for sustainable development and the role it plays if properly implemented in our educational system. The researchers opined that the Nigeria educational sector is in urgent need of transformative pedagogy in line with the transformation agenda in the nation's polity. A survey research design was adopted for the study and data were collected using a questionnaire and interview method. The population for the study was about 6000 thousand stakeholders in the education sector comprising of school principals and high ranking personnel in the ministry of education out of which a sample size of 361 respondents was randomly drawn in line with Krejcie and Morgan (1975) formula for determination of sample size. Data analysis using simple percentages and Chi-Square statistical analysis techniques showed that to a low extent; information is easily accessible and curriculum reforms are speedily implemented while to a high extent entrepreneurship innovations is perceived to enhance development. Even though particular emphasis was paid to the Nigerian context; the findings in this article is reflective of some other Africa countries. Feasible recommendations for sustaining development in education and the actualization of the nations' vision for her educational sector by the year 20/20/20 were made.

Keywords: Transformative, education, tool, sustainable, development.

Introduction

In today's' multicultural societies, it is crystal clear that teaching in any classroom situation is a cross-cultural reality as teachers and their students differ remarkably in terms of race, ethnicity, gender, class, language, and other variables. This reality has necessitated the need to require diversified courses that are designed to help pre-service and in-service teachers develop the knowledge, skills, and competencies needed for successfully working with diverse student populations, as well as prepare all students for effective citizenship in a multicultural democracy (Ukpokodu, 2009).

Transformative education globally refers to a learning process that brings about deep and significant changes in an individual and ultimately culminates in similar changes at the societal level principally brought about through innovative and creative teaching-learning, curriculum reforms, and appropriate policy at the school level. It is a development paradigm which meets the needs of the current generation without compromising the ability of future generations to meet their needs (UN, 1989). More so, according to Dewey (1933) transformative learning is when a person comes to see some aspect of the world in a new way and finds new meaning as well as values to it. It is a process whereby "we transform our taken-for-granted frames of reference to make them more inclusive, discriminating, open, changeable, and reflective so that they may generate beliefs and opinions that will prove more true or justified to guide action" (Mezirow, 2000).

The theory of transformative learning is concerned with how learners critically reflect on experiences including existing knowledge and beliefs and how they integrate new knowledge to reflect a change in experience. Thus, for learning transformation to occur; individuals must become aware of their current habits of mind and points of views. More importantly, engage in examining, reflecting, and challenging their assumptions and premises for the mind-sets, as well as developing alternative perspectives. In addition, students would have to alter their frames of reference by critically reflecting on their assumptions as well as beliefs by consciously making and implementing plans that would bring about new ways of defining their worlds and general understanding.

Education in its broadest sense refers to the ways in which people learn or acquire skills, gain knowledge and understanding about the world, and about themselves. It is concerned with the general acquisition of values, knowledge, skills as well as attitudes and designed to remove the chains of ignorance, superstition, and diseases. Traditionally, education has been seen as a basic tool for effecting change in the learner; and the school an important socializing arena for preparing students to become active citizens as well as socialized individuals who become integral part of the society in which they live (Okojie 2007).

Sustainable development in the same vein is worldwide desired paradigm shift for the developed and the developing countries, and it refers to "a change of culture that develops and embodies the theory and practice of sustainability in a way which makes an individual critically aware (Sterling, 2001). It is a transformative paradigm which values, sustains and realizes human potential in relation to the need to attain and sustain social, economic, and ecological well being; recognizing that they must be part of the same dynamic". Thus, it is a necessary tool for liberating humanity from ignorance (Isiugo-Abanihe, 1996), and a key factor to bring about the necessary

awareness and understanding to meet the sustainability challenge in this century (HEFCE 2009; Clarke 2012). However, developing countries like Nigeria in the continent of Africa have not put some basic tools in place to achieve sustainable development particularly in the educational sector (Raheem, Kupari, & Lasonen, 2006 UNESCO 2005a).

Sustainable education is a precondition for progress in development and reduction of poverty since it helps people to earn more income and become more productive members of their society leading to the rise of localism, participative democracy, green purchasing, ethical business, health, nutrition, and efforts to achieve a low carbon economy. Through sustainable education people are empowered to transform their own lives and that of others in their communities by building capacity to utilize knowledge and information (Hamman, 2006). Although, increasing the literacy rate will not be enough to create a sustainable society; recognizing that a shift in the educational system is needed to move toward sustainability is critical (UNESCO 2013; Steier & Jorgenson 2003).

Education for sustainable development behooves that every human being acquires the knowledge, skills, attitudes as well as values necessary to shape a sustainable future. It is an educational orientation that demands including key sustainable development issues such as climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption into the teaching-learning process; and requires a participatory teaching -learning environment that would motivate and empower learners to change their behaviour as well as take actions for future sustainability, as such, every school-aged child should be in the classroom. However, a set of report from UNESCO Institute for Statistics (2014) revealed that nearly 58 million children of primary school age (typically between 6 and 11 years of age) were not enrolled in school in 2012 and many of them will probably never enter a classroom as shown in Figure 1.

Education is a human right recognized worldwide as indicated in Article 26 of the Declaration of Human Rights (1948) which states that: "Everyone has the right to education". More so, it is a general belief that equal access to educational attainment promotes social justice and cohesion and indirectly eradicates poverty. Consequently education for sustainable development promotes competencies like critical thinking, imagining future scenarios, and making decisions in a collaborative way which requires far-reaching changes in the way education is often practiced today particularly in Nigeria and some other Africa countries.

FIGURE 1

Number of out-of-school children of primary school age by region and sex, 2000–2012

SUB-SAHARAN AFRICA   SOUTH AND WEST ASIA   REST OF WORLD

World in 2000
99.8 million

13.6 million

11.3 million

22.2 million

11.6 million

22.3 million

18.7 million

World in 2012
57.8 million

Female

Male

Female

Male

Female

Male

9.2 million

9.2 million

4.8 million

5.1 million

16.6 million

13.0 million

Out-of-school children
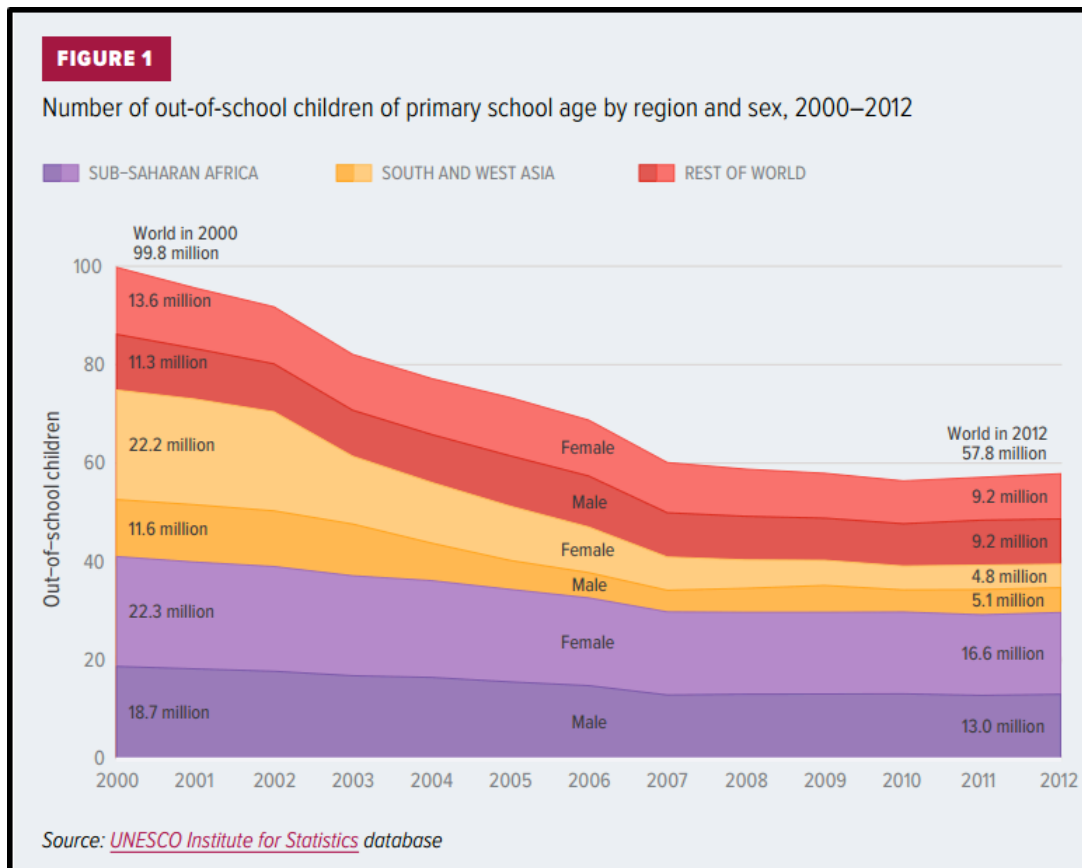
Source: UNESCO Institute for Statistics database

Figure 1: This is an image of the number of out-of school children of primary school age adopted from UNESCO's report.

In Nigeria, about 61% of the populace is literate but about 8.7 million children are out-of-school as shown in Figure 2. Many reasons have been attributed to the attrition in the number of out-of school children in the region but two of the pressing challenges noted by *The Global Initiative on out of School Children* are poor funding and the poor quality of the education offered in many schools (or learning crisis).

Evident in most teaching-learning environment is inadequate/overcrowded classrooms, insufficient learning materials, and unqualified teachers. As such, a large numbers of children drop out from school or repeat grades without mastering the basics. The reports which further highlighted on the importance of addressing income poverty as well as issues of location and gender; also stressed that culture, language, security, and the environment are vital considerations in improving education in this region and as such, urged African governments and donors to refocus efforts to providing free, and high quality education so that ultimately all children regardless of their backgrounds or circumstances will be in school and learning to guarantee sustainability.
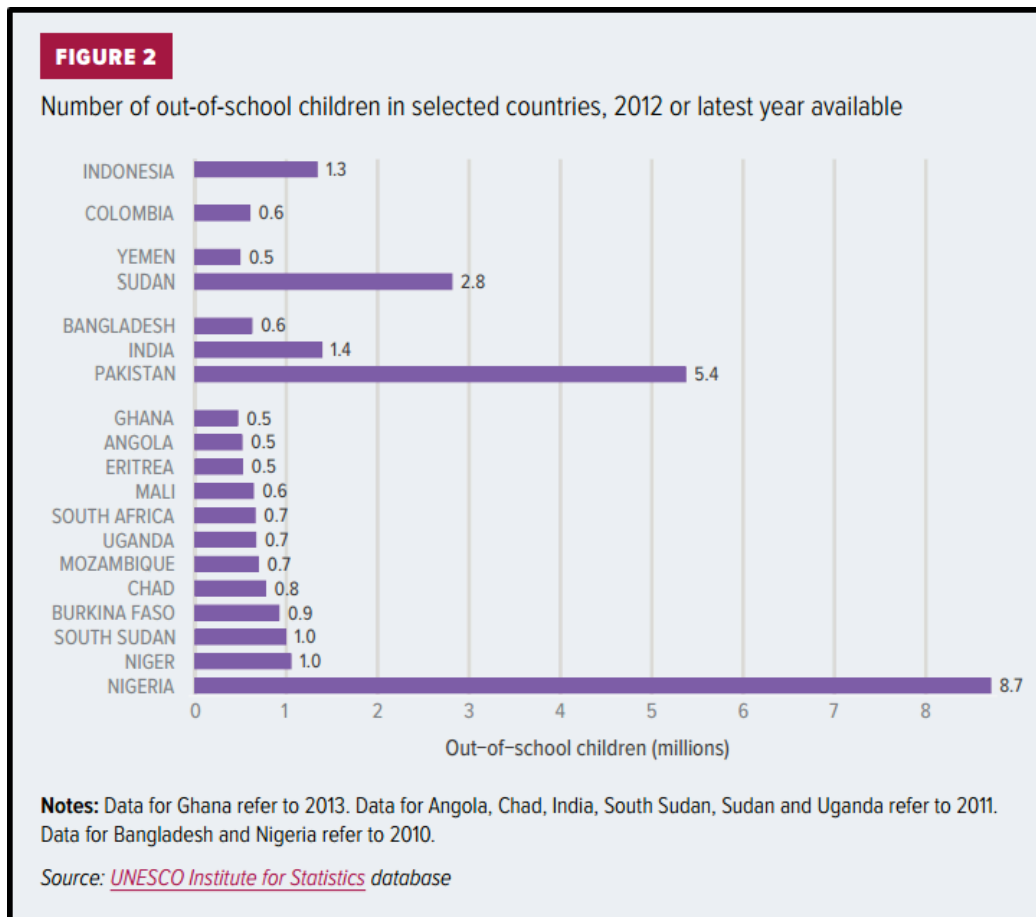
FIGURE 2

Number of out-of-school children in selected countries, 2012 or latest year available

Country	Out-of-school children (millions)
INDONESIA	1.3
COLOMBIA	0.6
YEMEN	0.5
SUDAN	2.8
BANGLADESH	0.6
INDIA	1.4
PAKISTAN	5.4
GHANA	0.5
ANGOLA	0.5
ERITREA	0.5
MALI	0.6
SOUTH AFRICA	0.7
UGANDA	0.7
MOZAMBIQUE	0.7
CHAD	0.8
BURKINA FASO	0.9
SOUTH SUDAN	1.0
NIGER	1.0
NIGERIA	8.7

Out-of-school children (millions)

Notes: Data for Ghana refer to 2013. Data for Angola, Chad, India, South Sudan, Sudan and Uganda refer to 2011. Data for Bangladesh and Nigeria refer to 2010.

Source: UNESCO Institute for Statistics database

Figure 2: This is an image of the number of out-of school children adopted from UNESCO's report.

Therefore, as highlighted by the UNICEF and UNESCO's report; there is an urgent need for greater analysis and more evidence-informed planning in order to reach excluded children. This study is an effort to provide such evidence informed perception of stakeholders on the journey thus far as well as probable challenges on the way in South-East, Nigeria.

Purpose of study

The major purpose of this study was to investigate educational stakeholders' perception of transformative education as a tool for sustainable education development when properly implemented in the school system. Specifically, the study focused on:
1. Information access and sustainable education development
2. Curriculum reforms and sustainable education development
3. Entrepreneurship education and sustainable development
4. Male and female respondents' perception of the extent to which the three variables will enhance transformation and sustainability in educational development of the region

Research questions

1. To what extent is information easily accessible to staff and personnel in the educational sector to foster sustainable education development?
2. To what extent are curriculum reforms speedily implemented in the educational sector to foster sustainable education development?
3. To what extent will entrepreneurship education enhance sustainable development?
4. Is there a significant difference between male and female respondents' perception of the extent to which the three variables enhances transformation and sustainability in educational development of the region?

Hypothesis

One null hypothesis was tested at 95% confidence interval as stated below
Ho: Male and female respondents do not significantly differ in their perception of the extent to which the three variables enhances transformation and sustainability in the development of the region.

Literature review

Sustainable education in the views of Sterling (2008) implies four descriptors. The four descriptors include educational policy and practice which is sustaining, tenable, healthy, and durable. Sustaining follows that it helps sustain people, communities and ecosystems; tenable follows that it is ethically defensible, working with integrity, justice, respect, and inclusiveness; healthy follows that it is itself a viable system embodying and nurturing healthy relationships and emergence at different system levels; and durable follows that it works well enough in   practice to be able to keep doing it. Thus, Sterling (2008) identified the following indicators as index to measure achievement of the sustainable education goals:

- **Information access:** larger number of communities with infrastructure in place that allows easy access to government information, public and private research, and community right-to-know documents.
- **Curriculum development:** increased number of curricula, material, and training opportunities that teach the principles of sustainable development.
- **National standards:** larger number of school systems that have adopted K-12 voluntary standards for learning about sustainable development similar to the standards developed under the National Goals 2000 initiative.
- **Community participation:** larger number of school systems and communities with programs for lifelong learning through both formal and non-formal learning institutions.
- **National achievement:** improved skill performance of students as measured by standardized achievement tests, and
- **Graduation rates:** increased high school graduation rates and number of students going on to college, vocational training, or other advanced training

This research effort will focus on information access, curriculum development, vocational training via entrepreneurship education and sustainable education development in the study area.

Information access and sustainable education development

Information literacy enables people to interpret and make informed judgments as users of information as well as become producers of information in their own right. Information literate people are able to access information about their health, their environment, their education, and work. Effective information access empowers an individual to make critical decisions about lives issues such as taking more responsibility for their own health, education, and general wellbeing. Paas (2004) opined that many changes called for in education for sustainable development (ESD) could be supported through greater integration of ICTs in the teaching- learning environment of all educational institutions.

In a digital world such as our world today; information literacy requires users to have the skills to use information and communication technologies in order to access and create information for example; navigating the cyberspace and negotiating hypertext multimedia documents requires both the technical skills to use the internet as well as the literacy skills to interpret the information. Thus, Quality education is a key to effective information access and relevant/usable information is a tool for achieving sustainable development. So, for formal education to contribute to sustainability, traditional systems and methodologies need to be re-oriented (Tilbury, Stevenson, Fien, & Schreuder, 2002; Huckle & Sterling, 1996; UNESCO, 2004).

Modern researches by scholars such as Paas and Creech (2008), Bassey, Okodoko and Akpanumoh (2009), and Sofoluwe, Shokunbi, Raimi, and Ajewole, (2013) have revealed that ICTs to a great extent advances education for sustainable development through increased access to educational materials about sustainability via educational networks, distance learning, and general databases, and helps to promote new ways of interacting in order to facilitate the learning called for in ESD which emphasizes not just knowledge but choices, values and actions. In the same vein, Bassey, Okodoko and Akpanumoh (2009) stressed the need for top management officials to embrace the rapid ICT revolutions for better efficiency. In their research in Africa, findings revealed that proprietors of public and private universities and their top management staff were slow to embrace the ICT revolutions thereby hindering quality assurance and goal attainment.   But sustainability in education requires a positive and proactive attitude to ICT in all facets of human activity.

Curriculum reforms and sustainable education development

Education for Sustainable Development involves a comprehensive approach to educational reforms. It extends beyond the boundaries of individual school subjects, and as such, requires the attention of the teachers, education administrators, curriculum planners, and other related agencies so as to adequately and effectively integrate its objectives, concepts, and learning experiences into the syllabuses and teaching programmes of the schools. A basic premise of education for sustainability is that since there is a wholeness and interdependence to life in all its forms; so also must there be a unity and wholeness to efforts to understand it and ensure its continuation. Thus, a call for in-depth interdisciplinary inquiry and action needed for breakthroughs and discoveries (UNESCO, 1996).

The research project by the Institute for Educational Research University of Jyväskylä, Finland conducted by Raheem, Kupari, & Lasonen,(2006) which concentrated on differences between curricula, national systems, and national strategies for improving the quality and sustainability of education for sustainable development in Ethiopia, Ghana and Nigeria revealed that even though students in Ethiopia, Ghana and Nigeria are knowledgeable about the environmental problems they live with; many of the everyday activities around them do not show sustainable use of the environment. More so, although teachers in Africa have impacted positively on their students; they needed more support in training and enhancement of their conditions in areas such as:

- improvement of school environment such as teaching-learning environment that is very poor, the sanitation level which is very low
- instructional aides such as textbooks, pictographs, computers, etc
- other educational infrastructures such as school buildings
- better wages
- pre- and in-service training to update their knowledge and specific curriculum as well as pedagogic initiatives geared towards given greater attention to facilitate sustainable development

Capelo, Santos, and Pedrosa, (2014) research also emphasized the need for a deeper appraisal of secondary school curriculum content, learning goals, and activities in order to ascertain how well they were aligned with ESD principles, and to determine if they contribute effectively to sustainable development. Furthermore, Alabiand and Okemakinde (2010) research on effective planning as a factor of educational reform and innovation in Nigeria revealed that there is a great need to plan for quality educational reforms in the nation because of the great need to accelerate structural integration of the country's plural society as well as equalize economic, social, and political opportunities.

Raheem, Kupari, & Lasonen (2006) research effort on science education for sustainable development in developing countries revealed amongst other things that specific as well as innovative curriculum and pedagogic initiatives are very poor, and the implication is the need to develop a measurement instrument for assessing sustainable development in the study area especially in science education. Since there is no proven recipe for success, and sustainability is an ongoing learning-by-doing process that actively involves stakeholders; this article reiterates the importance of ensuring an effective information access and innovative curriculums as critical elements in any education related to transformation and sustainability.

Entrepreneurship education and sustainable development

Entrepreneurship innovations are the backbone of development in the developed nations of the world because they play important roles in employment creation, income generation, and economic developments. Analysts have stressed the need for improved human capital development (HCD) in Nigeria and other developing nations on the ground that a nation's human capital is vital for future technological breakthrough, international competitiveness, and sustainable economic development. In addition, development theorists have established links between investment in

Human Capital Development (HCD), skills training, economic development, social progress, productivity growth, and technological innovations.

Several studies have also established a positive functional relationship between education and national development especially when the indicators of HCD are used as performance metrics (Becker, 1994; Awopegba, 2001; Babalola, 2003; Oluwatobi & Ogunriola, 2011; Simkovic, 2012 and Sofoluwe, Shokunbi, Raimi, & Ajewole, 2013). In the views of Oluwatobi and Ogunriola (2011) one of the potent factors that enhance the wealth of nations is that of human capital; and the better a nation's human capital, the higher the productive capacity and national wellbeing.

Entrepreneurship education is more than simply "starting a business school." Rather it is a process through which individuals are taught to identify opportunities, allocate scarce resources, and create value. This creation of value is often through the identification of unmet needs or through the identification of opportunities for change. Entrepreneurial success is thus simply the function of the ability of an entrepreneur to see and create opportunities where there seemingly seems to be none. In order words, for Nigeria to accelerate her socio-economic developments; deliberate attention should be focused on human capital development through regular interaction with human capital builders so as to facilitate the process of meaningful national development (Awopegba, 2001; Olaniyan & Okemakinde, 2008; Simkovic, 2012). That is to say, if Nigeria is to douse the rising wave of mediocrity and reduce the rising rate of unemployment; entrepreneurship education is of great necessity for economic sustainability.

The key roles of entrepreneurship in sustainable development include mobilization of domestic savings for investment, significant contribution to Gross Domestic Product (GDP) and Gross National Income (GNI), harnessing of local raw materials, employment creation, poverty reduction and alleviation, per capital income, skills acquisition, advancement in technology, and expert growth and diversification. In the views of Bink and Vale (1990) entrepreneurship is an unrehearsed combination of economic resources instigated by the uncertain prospect of temporary monopoly profit. It is the capacity and attitude of a person or group of person to undertake ventures with the probability of success or failures, and it demands that the individual should be prepared to assume a reasonable degree of risks, be a good leader in addition to being highly innovative. It is one of the elements crucial to averting the surging rate of unemployment, and guarantee employment sustainability.

Education in Nigeria to a large extent is devoid of this key element crucial to averting the surging rate of unemployment in the country. As such, more effort is needed in provision of entrepreneurship development through education to advance the economy of the nation. Put differently, more strategic measures need be put in place to ensure that entrepreneurship is engrained in our school curriculum with focus on profitable personal development since entrepreneurship development has led to the growth of many great economy as well as sustainable development in many developed nations.

Method
The survey research design was adopted for this study because the researchers were interested in describing and explaining the present condition of the topic by using

many subjects and questionnaire. The area of study was the South-Eastern part of Nigeria. South- Eastern Nigeria is the region that borders Cameroon to the east and the Atlantic Ocean to the south. It is the homeland of Kwa speaking people and the dominant language of this region is Igbo. It is primarily situated in the Niger Delta region of West Africa, where it meets the Atlantic Ocean to its South. It has lands on both sides of the lower Niger River although the larger chunk of the region is situated on the East of the river. The region is surrounded by a host of large rivers and plays host to five states namely Abia, Anambra, Ebonyi, Enugu, Imo state. Presently, this region is serviced by five federal and five state owned universities.

The population for this study was about 6000 stakeholders in the education sector comprising of school principals and high ranking personnel in the ministry of education out of which a sample size of 361 respondents were randomly drawn using simple random sampling techniques at 95% confidence interval in line with Krejcie and Morgan (1975) formula for determination of sample size. The instrument for data collection was a 24- items four- point Likert Scale questionnaire tagged "Questionnaire for appraising information access and curriculum reforms need in our institution" (QAIACRNI) constructed by the researchers and validated by experts in instrument construction. The instrument had a Split-half reliability index of 0.72, and the result of data analysis using simple percentages and Chi-Square statistics is as presented below.

Results

Table 1:% Extent to which information is accessible to staff / personnel in the education sector

Variable	n	High extent	Low extent	% high extent	% low extent	Decision
Male	200	23	177	11.5	88.5	Low extent
Female	161	8	153	4.97	95.03	
Total	361	31	330	8.59	91.41	

Table 2:% Extent to which curriculum reforms are Speedily implemented in the education sector

Variable	n	High extent	Low extent	% high extent	% low extent	Decision
Male	200	33	167	16.5	83.5	Low extent
Female	161	30	131	18.63	81.37	
Total	361	63	298	17.45	82.55	

Table 3: %Extent to which entrepreneurship education will enhance sustainability in development

Variable	n	High extent	Low extent	% high extent	% low extent	Decision
Male	200	33	167	16.5	83.5	High extent
Female	161	30	131	18.63	81.37	
Total	361	63	298	17.45	82.55	

Table4: Chi- Square analysis of male and female respondents' perception of the extent to which the three variables enhances transformation and sustainability in the educational development of the region

Variable	Information access	Curriculum reforms	Entrepreneurship education	Total	X^2 Cal.	df	X^2 Crit.
Male	1456	1325	1256	3653			
Female	1975	1725	1359	5059	125.	2	124.3
Total	3431	3050	2615	8712	3		

Discussion

The results of data analysis at 95% percent confidence interval using simple percentage and Chi-Square statistical analysis techniques revealed that to a low extent; information is easily accessible and curriculum reforms are speedily implemented while to a high extent entrepreneurship innovations enhances development. In order words, staff and personnel in the education sector have poor access to relevant information, and curriculum innovations are poorly implemented but entrepreneurship reforms are accessible development. More so, there was no significant difference between male and female respondents on their perception of the extent to which information access, curriculum reforms, and entrepreneurship education enhances transformation and sustainability in the development of the study area. Therefore, the Nigeria Government as well as other stakeholders in the education sector should take positive and proactive measures to remedy the abnormally in the sector if transformation and sustainability is to be achieved.

Conclusion

Nigeria has not achieved much in terms of reforming her education sector in order to cope with the daunting challenges plaguing her due to myriad of influencing factors. But the urgent need for her to plan and effectively implement quality educational reforms/innovations so as to fit in to our dynamic world of today cannot be over-emphasized. The time for a complete paradigm shift from traditional classroom environment to an e-learning classroom environment in our educational institutions for global competitiveness is now. Properly planning, implementation, and monitoring to accelerate structural integration of all sector is not negotiable.

Recommendations

In order to transform and enshrine sustainable educational development in Nigeria, the following proactive steps are necessary:
- Establishment and equipment of functional ICT department in all school at all level of schooling
- Teaching to impart lifelong learning skills to students at all level of schooling
- Entrepreneurship education/ skills should be taught to all students at all levels of schooling
- Training and re-training of teachers for creative thinking at all levels of teaching and learning
- Re- orientation of all school personnel towards creativity and innovativeness within and outside the school systems

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