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## REPOSITIONING EDUCATION FOR ACCESS, QUALITY AND PEACEFUL CO-EXISTENCE IN AFRICA: MATHEMATICS AND SCIENCE EDUCATION IN FOCUS

By

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### ABSTRACT

*In many African countries, access to education by most of the people has been very worrisome despite the international call for the provision of Education for All (EFA) in every community around the globe. In Nigeria, the problem has worsened especially with the proclamation by authorities recently that no less than 10.5 million children of school going age are out of school. On the other hand, education was considered to be an agent through whom peace could be enthroned in the society. It is against this backdrop that the paper dwells much on Nigerian education system in terms of its quality and access by Nigerians and how education in general could be used as an instrument to ensure peaceful co-existence in the entire continent of Africa. For education to be repositioned, the paper maintains that the application of Information and Communication Technology (ICT) has to be made to be rigorous in the present curriculum as against what is obtainable in the past when ICT was not prevalent. Mathematics and science education were also considered in the paper in terms of quality and access by Nigerians. However, the paper argues that the duo of mathematics and science education could be used to achieve peaceful co-existence in Africa as well. In the end, the paper recommended amongst other things that curriculum should be re-structured to encompass peace education which may not only be restricted to Nigeria but extended to the entire continent of Africa. Mathematics and science education were also recommended to be provided to Nigerians and Africans; the duo of which should be qualitative and accessible.*

**Keywords:** Quality Education, Accessible Education, Peaceful Co-existence, Mathematics and Science

### INTRODUCTION

Education has been viewed by individuals both at home and abroad to be the epicenter of developmental changes in societies the world over. In Nigeria for instance, education was considered to be critical for the long term success of the country; whereby the country's ability to remain competitive in the knowledge-driven world is dependent on the number of trained and skilled experts the country is able to produce (Federal Republic of Nigeria, 2011a), and this solely rely on the quality of education offered by the country and how accessible the education is made to the citizens. A sizeable number of contributions were made on how education could be

used to achieve unprecedented transformations in every sphere of country's social, economic and political structures. In this respect, Adegbesan (2011) described education as the bedrock of every nation and a tool for nation building. By being a tool for nation building, the system (education) has to be structured to be responsive to such a worthwhile venture that is capable of transforming the country to a certain level of development in the community of nations. In his take on education, Olubadewo (2007) stressed that education is of great importance to every nation and as such attracts attention at different levels; family, community, state and federal where discussions are planned, strategized and processed. All these are in

the aim to making the system sound, qualitative and accessible to all and sundry.

However, all these can be realizable if the entire system is repositioned to suit the contemporary need of the society. By repositioning, the system should be overhauled to get rid of the rats which take a variety of forms. These include, as opined by Odia and Omofonmwan (2007) as having to do with decline in the standard of the system, deterioration of facilities, examination malpractices, mass promotion syndrome and the like. This is what most often comes to mind on hearing about Nigerian education system and it has to be addressed for the system to be strong, vibrant and productive. In terms of quality, Nigerian education system is considered to be dwindling because of so many reasons. Chiedu (2013) reported that the dwindling quality of education in Nigeria is a cause for concern and to say the least, disheartening. According to him a lot of Computer Science graduates when called for an Aptitude Test for recruitment fail because of their inability to operate PC. Failure of a graduate, not only in Computer Science to address practical application of the field they may have read is certainly a great setback to the entire system. This was further admitted by the Federal Government of Nigeria (2011b) which lamented that quality assurance is a major challenge of Nigeria's education sector; whereby a thorough look at the educational institutions reveals low standard and quality of schools and their output, infrastructural decay, obsolete facilities, poor teacher quality, mass failure in public examinations, cultism, examination malpractice and maladministration. This is an indication that the quality of the system is so low to such an extent that government itself accepted that the system is low in terms of standard and quality. Government therefore has to reposition the entire system to make it up to standard by perhaps committing enormous resources to the system so as to revive it to be up to an international standard.

In terms of access, most of Nigerians are less accessible to education. This cuts across different levels of education. For instance, at primary school level forty two percent (42%) of primary age children in Nigeria, which is about 10.5 million are out of school (USAID, 2013) and less than third percent of primary school children proceed to junior secondary school and even fewer go on to complete secondary school. In their attempt to depict the meaning of access to education, Aluede, Idogho and Imonikhe citing Enaohwo (2008) conceptualized access to education in respect to Universal Declaration of Human Rights which asserted that everybody has a right to education; whereby access to it provides guarantee for everyone entitled to education to have it. And likewise it implies the right, opportunity and a means of making education available at the doorstep of every citizen of a nation. This is because of the geometrical increase in the country's population which has to go with corresponding increase of educational opportunities for the citizens. To further buttress the incessant lack of access to education by Nigerians, Onuoha (2013) reported that former Minister of Education, Prof. Ruqayyatu Ahmad Rufa'i at a press conference highlighted the misfortunes of primary education in Nigeria. She however narrated the ordeal of the system as captured by the report of monitoring team of the Education for All (EFA), which clearly portrays the statistics of children without access to basic primary education around the globe.

However, in the said report by the EFA Monitoring Team, an estimated 61 million children of primary school age do not have access to education globally. Out of this number, Nigeria alone is a home to an estimated 10.5 million out-of-school children in 2012 – 3.6 million more than in 2000, or 42% of the primary school age population. In a nutshell, 17.21 percent of out-of-school children in the world are Nigerians. Thus, one in every six out-of-school children is a Nigerian. Similarly, 6 million of 36 girls out-of-

school world-wide are Nigerians. In this respect therefore, government has to make a lot of provisions to make education sector outstanding because everything the country is proud of relies to greater extent on the level of educational attainment of the country.

### ***Nigerian Education System: Quality and Access by Nigerians***

After the complete departure from using the curriculum brought to us by the colonial masters, the system of education in Nigeria was initially structured to be 6-3-3-4 from the beginning, with six years for primary, three years junior secondary school, three years senior secondary school and four years for university education. This was eventually changed to 9-3-4. It means now that, one would spend nine years of basic education comprising six years of primary school and three years of junior secondary school, three years of senior secondary school and then four years of university education. According to Akinyode (2005), the 6-3-3-4 system of education gives a Nigerian citizen a chance to contribute his worth to the nation's development at the level commensurate to one's mental ability. The system of 6-3-3-4 was introduced to usher educational revolution in the country; as a result of which it was seen as the laudable programme worthy of commendation (Babafemi, 1999).

As the saying goes "no nation can rise above the quality of its graduates", Nigerian nation cannot be an exception. Even though the system of education in Nigeria, in some of its areas could be considered commendable, there is ever need of embarking on reforms that will turn the system around. This cannot be done without funding as the central of it all. The country need to dedicate enormous resources in line UNESCO provision so that the system could be rejuvenated from the present state it is.

### ***Education for Access, Quality and Peaceful Co-existence in Africa***

Africa is such that it houses multi cultural ethnic groups, each with distinct cultural heritage, education system and other institutions that differ from one another. Many countries have over the years been struggling to ensure the provision of quality education in African countries. This is through increasing enrollment, providing opportunities for the less privileged ones and above all inclusive education system. In Nigeria for instance, prior to and after independence, many educational reform programmes were embarked upon by the then regional governments and subsequently military and democratically elected governments. These include the Universal Primary Education (UPE) of 1956 and 1979 and Universal Basic Education (UBE) of 1999. These are all attempts by successive governments to make education accessible to all and sundry irrespective of gender, ethnicity, region or tribal affiliation. Despite these efforts by governments at different times of the country's history, Igbuzor (2006) maintained that over the years Nigeria expressed a commitment to education in the belief that overcoming illiteracy and ignorance will form the basis for national development but there remain inequalities in access to education amongst the citizenry. In this regard therefore, access to education became a problem to so many people. This is evident in the recent proclamation by EFA Monitoring Team that about 10.5 million Nigerians of school going age are out of school.

On the quality of education in Africa, education was considered a priority by most governments across the continent. Because of the disparity in the wealth of nations, quality of education differs from one country to another. Reporting on this phenomenon, Odukoya (2010) citing UNESCO (2004) reported that several indicators may be considered in ascertaining the quality of education in a country; whereby in some countries public expenditure on

education represents a higher percentage of GDP in rich countries. In some countries where the level of income generation is not up to others, the level of resources committed to education is less. Quality of education is sometimes affected by some factors even if there are resources at the disposal of the country to do that. Such factors were captured by Akpa, Udoh and Fagbamiye (2005) to include inadequate funding, shortage of physical facilities, shortage of qualified teachers, unstable educational policies, lack of uniform curriculum and poor supervision. According to them, for an educational system to be qualitative, it should be devoid of the foregoing problems.

However, education can be used to achieve peaceful coexistence in the entire African continent. Tsafe (2014) citing Exam Ethics Projects (2005) reported that education is the most potent vehicle for the development and empowerment of individuals' economic, political and social development as well as national growth and enthronement of peace. In view of this, the totality of individuals' life can be successful, devoid of rancor and acrimony under the atmosphere of peace. Similarly, peaceful coexistence amongst people can only be ensured if such group of people is educated enough to understand what is required of them in the society they find themselves.

### ***Mathematics and Science Education: Quality and Access by Nigerians***

Mathematics and science education are of a great importance to the growth and development of every sector in the country's socio-economic and political set up, owing to the nature of the two concepts. According to Tsafe (2014), the two areas require attention for their teaching and learning and the proper dissemination of their knowledge for the advancement of humanity. Since the two areas are vital for the development of humanity, then having access to them by Nigerians should not be contemplated. This access to education should be

inclusive, cutting across primary, post-primary and tertiary levels of education and should be evenly distributed regardless of individuals' affiliation; whether nomads, fishermen, rural and urban dwellers and the like. This is in agreement with the believes of Tahir, Muhammad and Mohammed (2003) that commitment to the universalization of access to basic education had, over the years heightened interest in the provision of quality basic education and other educationally less advantaged people in Nigeria.

The vitality of mathematics was underscored by different individuals, each with distinguishing evidence for their assertions. It is the pivot around which the essence of living revolves and the reason for many scientific and technological take-offs (Ojimba, 2013), mathematics enables individuals to be interested in and understand the world around them (Bessong, Ubana & Udo, 2013), mathematics is an essential course for the scientific and technological development of any society around the globe (Salman, Yahaya & Adewara, 2011). Few of these assertions are why the knowledge of mathematics has to be qualitative because all these could not be achieved without a standard education that is capable of making the country to achieve such an important position in the community of nations. Equally important is how this knowledge if provided in qualitative form can be accessible to the entire citizens of a country; regardless of where one comes from. To this end, mathematics should be made accessible to all citizens so that the required development in all disciplines that are not possible without mathematics would be made attainable, achievable and sustainable. This includes peace and conflict resolution among communities not only in Nigeria but in the entire continent of Africa.

However, science education is also crucial in the development of a nation as described by many commentators and authorities in the field. Amongst them, Nwachukwu (2012) maintained that a good science education programme is expected to achieve

an appreciable national development which had not been developed in Nigeria in spite of efforts made by successive governments in the country. In their take on science, Aguele and Agwagah (2007) said in the development of a nation, the role played by science, technology and mathematics cannot be overemphasized. Meanwhile, it is through science education that so many innovations can be pioneered that will be aimed at developing a nation in so many of its ramifications.

### ***Achieving Peaceful Co-existence in Africa through Mathematics and Science Education***

Mathematics and science education could be used to achieve peaceful coexistence in communities across African countries. But before delving into how mathematics and science could be used to achieve peaceful coexistence, there is need to provide what Albert Einstein said on humanity and society. This, it is believed can entrench the culture of peace in the society irrespective of race, ethnicity, religion or political affiliation. Here is what Einstein had to say:

A human being is part of the whole called by us universe, a part limited in time and space. We experience ourselves, our thoughts and feelings as something separate from the rest. A kind of optical delusion of consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from the prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty. The true value of a human being is determined by the measure and the sense in which

they have obtained liberation from the self. We shall require a substantially new manner of thinking if humanity is to survive.  
(Einstein, 1954)

The above quotation is purely logical and philosophical in its nature and the knowledge of mathematics is inseparable to logic and philosophy and this was pointed out by Ernest (1991) that mathematics is a branch of philosophy whose task is to reflect and account for the nature of mathematics. So in essence mathematics could be used to achieving peaceful co-existence.

It is as such highly advised that mathematics and science should be taught vigorously at all level because it inculcates a high sense of positive thinking to individuals which they may eventually take along with to their various communities and if they happen to apply it, there would certainly be a harmonious relationship in the entire communities.

### **CONCLUSION**

The paper highlighted so many issues on the state of affairs of education in Africa in terms of access, quality and repositioning, drawing instances from Nigeria. These, however borders on access, quality and how education can be used to achieve peaceful coexistence amidst the multi cultural diversity of African communities. The paper also opined that there are variations in the need for access and quality of education to be provided between African countries. While some countries are richer, some are struggling with their economy which makes them have limited access to education, and on government's part, the resources are limited to make adequate provision for qualitative education for their citizens. The enrollment rate has also not been encouraging and varies between countries. Education was also considered an instrument that can be used to

achieve peaceful coexistence. This is because some problems mostly encountered have a very strong relationship with the level of enlightenment amongst individuals. The level educational awareness and enlightenment may hardly allow people to engage in anything that is not likely to be profitable, let alone disruption of peace in the community.

## RECOMMENDATIONS

- Adequate provision of education should be made by governments at all levels across the continent so that people would have chance to acquire it with ease.
- Free access to education should be ensured to all and sundry regardless of individuals' background, ethnic group, gender or political affiliation.
- Individuals should be well enlightened through various education programmes so as to curtail any aggressive tendency from anybody which may disrupt the peaceful coexistence of people in the society.
- Governments in all African countries should make a judicious use of the reports of EFA Monitoring Team to guide the formulation of educational policies in their respective countries.

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