

MDGs AND BASIC SCIENCE AND TECHNOLOGY TEACHERS CAPACITY BUILDING: RHEOTORICS AND CHALLENGES FOR NIGERIA VISION 20:20

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ABSTRACT

The nations overall educational development is extricable tied to effectiveness of teachers at all levels especially at primary school level. Unsatisfactory status of basic science and technology (BST) teachers in Nigeria at present necessitates a reappraisal of our BST teachers, preparations towards meeting the Nigerian vision 20:20. This paper takes a critical look at Millennium Development Goals (MDGS) retraining of BST teachers the rhetoric's of retraining BST teachers MDG workshops. Some of the rhetoric's include number of participant to be trained, period of the workshop and funding. In spite of the effort by the Nigerian government in trying to meet up with the rest of the world in the area of science and technology where basic education is the cradle, it is still faced with lot of challenges such as lack of science based basic schools, lack of qualified BST teachers, poor curriculum content and materials. To achieve development in the area of science and technology through Nigerian vision 20:20, it was recommended that science based basic school should be established and its curriculum content and material restructured.

Keywords: Basic Science & Technology, MDGs, Teachers, Rheotorics, Capacity Building, Vision 20: 20

Introduction

Development has more often than not been associated with scientific and technological breakthrough of various nations in question. Jayeola-omoyemi (1995) asserts that scientific breakthrough have tremendous impact in revolutionizing many of the industrial social activities of mankind. If this assertion is true, one would equivocally admit that there will be no scientific and technological development without education .However the primary driver which is the teacher becomes more important in the process of transmutation of the required scientific and technological know-how for appropriate development.

The importance of the teacher and the role they play in the education process is central particularly in a developing country like Nigeria. It is in realization of this fact that the National Policy of Education NPE (2004) explained that teacher

education will continue to be given major emphasis in all educational planning. This is because no education system can rise above the quality of its teacher and no nation can rise above the quality of its educational system. This is further buttressed by Tahir (2006) who opines that to produce a virile science education teachers, science teachers need to be properly trained and retrained in adequate number of functional competence which enable them teach effectively. This even becomes more important as scientific approaches to researches have resulted in knowledge explosion and in rapid renewal of technological device that pose challenge to both survival and higher life goals. For Nigeria to achieve its goals for national development, the first task is to assist teachers to demystify science and technology. High quality and professional development in science and technology is therefore very vital to retaining teachers in this area as well as improving students' performance. The need to focus in the area of teacher retraining most therefore be pursued if the nation's desire of vision 20:20 is to be realized.

This paper attempts to look at the retraining of Basic Science and Technology (BST) teachers through the Millennium Development Goals Project (MDGs). It also assessed some of the rhetoric's and challenges this retraining workshops poses to the realization of Nigeria vision 20:20.

The Millennium Development Goals (MDGs) Capacity Building Efforts in Nigeria

Following the United Nations Millennium declarations adopted at the millennium summit held between 6th and 8th September 2000 in New York, Nigeria has been committed to the realization of the MDGs by year 2015 (Soludo 2004). These goals were targeted for making measureable improvement in the lives of the world's poorest citizens. The participating countries were expected to articulate policies, plans and strategies which will facilitate the achievement of eight MDGs.

The eight goals are:

- (i) Eradicating extreme poverty and hunger
- (ii) Achieving universal primary education
- (iii) Promoting gender equity.
- (iv) Reducing child mortality.
- (v) Combating HIV/AIDS, malaria and other diseases.
- (vi) Ensuring environmental sustainability.
- (vii) Improving maternal health
- (viii) Developing global partnership for development

The Nigerian government in its desire towards realization of the universal Basic Education goal launched the Universal Basic Education (UBE) programmed in September 1999. The UBE is a nine year basic educational intervention program aimed at addressing the problem of inequality and educational opportunity at basic levels both in terms of access and quality in Nigeria. The UBE program was launched due to distortion and inconsistencies in basic educational delivery and to reinforce the implementation of National Policy on Education, NPE, (2004)

The UBE program has recognized the continual deepening of knowledge and skills of teachers as an integral part of the development of nine year basic education program in Nigeria. Considering the global emerging issues in education it has equally recognized that competent and dynamic teaching personnel would ultimately produce efficient and effective human resources for national development. This teacher factor remains vital in the teaching and learning process. This goes to show that whatever resources that are deployed to improve education it might not yield the desired result unless priority is given to training and retraining of teachers. To ensure quality teachers especially for the nine year basic education program, the entire education sectors and agencies should be involved. One of such agencies is the National Teachers Institute (NTI). The Federal Government under the MDG Project directed NTI to re-train primary school teachers across the country. The re-training exercise took the form of workshop, which focused on the following areas;

- (i) Innovative techniques of teaching the four core subjects (i. e English, Mathematics, Basic Science and Technology and Social studies)
- (ii) School Based Assessment and
- (iii) Improvisation of instructional Materials

The objectives of the workshop are to:

- (i) Update teachers' knowledge in some strategies and methods of teaching BST
- (ii) Update teachers' knowledge on the resources for teaching BST
- (iii) Update teachers knowledge on the techniques of school base (NTI-MDG project 2007).

For effective coverage of the workshop the country was zoned into six assessment geopolitical areas, ten centers were created from each state. Participants were drawn from primary schools in all the Local Government Areas in the country. Azubair (2009) observed that MDG-NTI has trained 302,566 serving primary school teachers including BST teachers. The re-training workshop lasted six days, this availed participants the opportunity to cover at least 75% of the training manual.

The re-training manual was written in form of modules and each of the modules covers one of the objectives of the workshop. Each of the modules had three units with its objectives, activities and exercise for the participants. Resource persons for the training workshop were drawn from Universities Colleges of Education and Polytechnics with at least a minimum qualification of Master's degree. This is aimed at ensuring quality and effective deliberation during workshop exercise.

Rhetorics of MDGs BST Capacity Building workshop

The emergence of MDGs has provided dramatic changes in teacher professional development in general and BST teachers in particular. This is because the BST teachers have more access to variety of continuing professional development programme more than ever before. This was further buttressed by Tahir (2006) who observed that the MDGs programed has made provision to address the problem of teachers quality and effectiveness through regular training and re-training. This he said is aimed to build and sustain capacity for teacher to effectively operate the education program. However the quality of students that have graduated from this nine year basic education intervention program into Senior Secondary School still show poor performance especially in external examinations in science-related subjects(WAEC & NECO 2011) that a lot need to be done in the re-training of BST teachers through the MDG programme. This is because a lot of issues outlined to be addressed were not rhetorically implemented. Some of these rhetoric's include:

- (i) Number of teachers to be retrained.
- (ii) Period of retraining workshop. Trained
- (iii) Curriculum content covered by the training manual.
- (iv) Funding of the workshop.

Number of teachers to be retrained: Although 145,000 primary school teachers were expected to be each year 2006, 2008 & 2009 as indicated in the training manual, only 141,134 teachers were trained in 2006, 157,566 teachers were trained in 2008 and 120,000 in 2009 (Sharehu 2009). From these data it can be observe that there is inconsistency in the number of teachers proposed to be trained as against the actual number of teachers trained the number in 2009 is relatively low as compared to the previous years.

Period of training workshop: The re-training workshop normally last six-days. This is grossly inadequate if the objectives of the workshop are to be achieved. The re-training is made up of module, with each module having some objective. Members are expected to interact among themselves and the resource person to serve as a guide. As a result of the limited number of days the workshop is usually another lecture class where the resource person does most of the talking and in

the end the objective of the workshop as stated in the training manual is not achieved.

Curriculum content covered by the training manual: The content of the BST curriculum as contained in the training manual was relatively small. The manual does not cover some aspects of the BST curriculum let alone numerous global and natural issues like HIV/AIDS, ICT, Environmental, Education, Poverty, Girl child Education etc. (NTI-MDGs 2007).

Funding of the workshop: Although a large sum of money was released for the re-training of the BST teachers, a lot still need to be done in this respect. The amount released for the training was not enough for the training exercise. It is also observed that the number of teachers involve in re-training exercise across the country including BST teachers is gradually reducing. In the year 2006 ,141,134 157,566 in year 2007 and only 120,000 in 2009 teachers were involve in the re-training exercise across the country including BST teachers. The amount of money set aside for the re-training exercise also account for limited number of days for the workshop which adversely affect the way the workshop was conducted and hence the curriculum content coverage.

The challenges for Nigeria vision 20:20

For Nigeria to be among the first twenty most developed economies of the world by the year 20:20 the following challenges must be addressed in order to strengthen BST infrastructure.

- (i) Massive and Adhoc Pivotal Training of BST teachers
- (ii) Massive Re-training of Serving BST Teachers
- (iii) Restructuring BST school structure and its curriculum materials
- (iv) Establishing BST based primary schools
- (v) Strengthening the capacity of Colleges of Education and Universities to produce quality BST teachers
- (vi) Special Salary scale for BST teachers as an incentive.

Massive and Adhoc Pivotal Training of BST teachers: It is no gain saying that BST teachers are inadequately trained to handle the current BST curriculum .Most of the BST have not been trained in this area to close this gap there is the need to massively train secondary school leavers and Diploma graduate in BST for at -least two to three years at pivotal centre to obtain BST teaching certificates. These teachers could be given employment as BST teachers in other to close the gap created as result of the dearth of qualified BST teachers.

Massive Re-training of Serving BST Teachers: To achieve the MDGs in the area of re-training of BST serving teachers should be massively trained on the job. For effective re-training of BST teachers, the workshop should for three weeks which should be continuous basis year in year out .This will also allow for adequate coverage of the BST curriculum .More BST teachers should involve in the re-training exercise, this will keep them abreast in current methods, strategies and technique in the teaching and learning of BST in schools.

Restructuring BST School Structure And Its Curriculum Material: The current six year structure of primary school is inadequate after 40 years of conception and implementation. This is reflected in the quality of primary school output inspite of concomitant problem of quality of teachers teaching material methodologies and psychologically associated problems such as motivation of teachers and curricular needs of the pupils Therefore there is the need to have a structure of nine year basic education that pupils could spend more time in school for better training and skill acquisition .The curricular and the curricular materials should be deeply contents driven with considerable pupils activity embedded to ensure participatory learning.

Establishing Basic Science Based Schools: Having recognized the importance of STM education in national development, there is the need to establish Science Based primary schools. This will assist in massive training of scientist and technologist which is vital in catering for massive need of innovators and inventors in this field and therefore closing the gap between Nigeria and the rest of the world in the area of science and technology development.

Strengthening the capacities of College of Education and Universities to produce quality science teachers: College of education and universities have problems of dilapidating infrastructure such as collapsing, inadequate office accommodation for staff, lack of adequate research and development infrastructures, lack of adequate teaching and learning materials, laboratory equipment and chemicals, lack of adequate funds and motivation of serving teachers. If all these are adequately provided, these institutions will be capable of training science teachers that would adequately provide quality man power for Nigeria's science education system.

Special salary scale for primary science teachers as incentives for retention on the job: In order to motivate BST teachers there is the need to provide them with special salary scale that would motivate absolute dedication to their duties and consequently retain them on their job rather than looking for greener pasture. It will also motivate those outside the teaching system to want to

join the profession. This is capable of boosting the image of teachers in the society and consequently make them more dedicated. Through this the country will be a better place especially in the area of quality BST education, this could also be done using existing MDGs funds.

Conclusion

This paper has so far identified gaps in the re-training of basic science and technology. Teachers through MDG. It explained how the MDG work is organized for the re-training of the BST teachers. Despite efforts and the resources put in place by Government and stakeholders in education to see the success of the re training workshop, the result of students in external examination still shows low performance in science related subjects. This is a clear indication that the children lack the basics of science at the lower level. Therefore it was recommended that more funds should be made available to train more primary science teachers so as to make Nigeria one of the first twenty most developed economies countries in the world by the year 2020 in the area of science and technology.

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