

A Survey of Science Teachers' Awareness of New Basic Education Curriculum in Nigeria

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Abstract

This research was carried out to find the level of awareness of science teachers' on the new 9- year basic education curriculum in Nigeria. The new curriculum is in line with the millennium development goals and globalization. A survey of 100 science teachers comprising of 50 public and 50 private secondary school teachers in Delta state Nigeria revealed that only 27% of private and 29% of public school teachers have high awareness of the objectives of the new curriculum. The others have mid or low awareness. Z- Test analysis of their means shows both public and private school teachers lack awareness. But a significant difference exists between all teachers aware and all teachers not aware. Possible reasons for low awareness were stated and recommendations were given such as a clarion call to the government and private school proprietors to immediately carry out effective campaign for teachers to be aware of the new 9-year basic education curriculum in Nigeria and training of science teachers to get acquainted with the changes in the new curriculum fully equipping them to implement this new curriculum.

Keywords: *Teachers; Awareness; Curriculum*

1. Introduction

The importance of the teachers in the successful implementation of curriculum programme in Nigeria cannot be overemphasized. Much of the work of implementation is resting on the shoulders of the teachers. The teachers need to be well informed about the new curriculum. They need to be given training before talking of full implementation. Especially in areas that major changes were made. For instance the basic science and basic technology replaces formal integrated science and introductory technology in the junior secondary and elementary science in the primary schools. Such teachers need to be trained in the new skills so that curriculum objectives will be meant otherwise the teachers with all their competences will no longer be competent to carry out the objectives of the new curriculum which is in line with the millennium development goals.

The new 9-year basic education curriculum needs to be understood by present primary and junior secondary teachers. It is not a question of qualified or not qualified teachers but of awareness and preparedness to use the new curriculum especially in the sciences. Are the present teachers aware there is a new curriculum? Do they understand the core and depth of the curriculum? Do they understand the millennium development goals and the relevance of the curriculum to the MDG? These are questions that have led to the event of this research. This research is therefore geared towards finding out the extent to which public and private school teachers are aware of the new 9-year basic education curriculum. The field work was conducted between October and November 2012.

The most important aspect of any educational enterprise is its curriculum. The curriculum has been severally defined but in this paper it is defined as the formal curriculum that is presented by the Local, State or Federal Ministries of Education. It is all educational activities given to the students under the supervision of the school and ministry of education in order to create changes in the learners' behaviour. When learning activities are planned with the intention to bring about certain changes in pupils and the extent to which changes have taken place in them are assessed, one can say curriculum development is

taking place. The curriculum after being planned has to be adopted for use in the school system. It is the duty of the classroom teacher to translate the curriculum goals from theory to practice. (Atomatofa & Ewesor, 2008).

The actual process of implementing the science curriculum involves the preparation of lesson notes/plan by the teacher and the usage of the lesson notes / plan during the teaching learning process. Before the preparation of the lesson notes the teacher must have accessed the subject curriculum, syllabus and scheme of work for that subject. The content will now be gotten using the right and relevant up to date materials, texts and teaching aids.

There are two main challenges in implementing the 9-year basic education curriculum in Nigeria. These are:

1. the task of training pre-service teacher or re-tooling the skills of the adequate number of serving teachers
2. the task of sensitizing the public and private stakeholders to provide the enabling environment and resources (Olubusuyi,2009)

According to Olubusuyi (2009), NERDC in trying to tackle the first challenged has put in place the following implementation strategies.

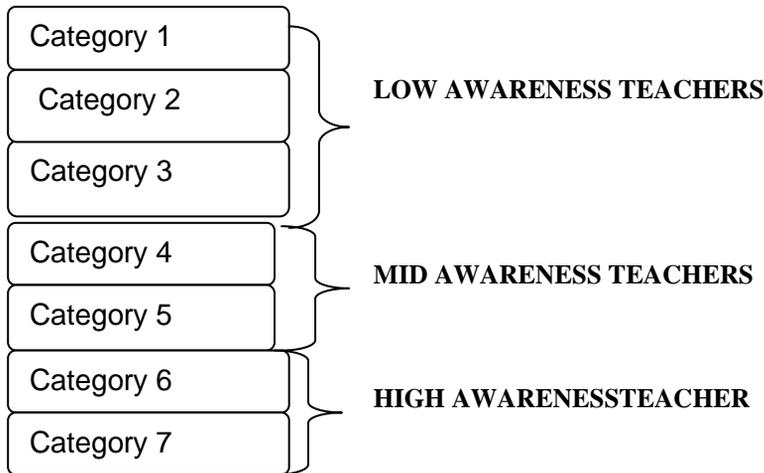
1. Printing and mass dissemination of the 20 subject based curriculum for the 9-year basic education program to all schools in 2008
2. Providing enough stock of this curriculum for procurement at affordable prices by private schools.
3. Public presentation of the curriculum by the minister of education in each of the 6 geo-political zones.
4. State level sensitization workshops for head teachers of primary school and principals of junior secondary schools for all states and the FCT.
5. Development, printing and distribution of NERDC manual for development and utilization of instructional resources for UBE programme.
6. Development of the teachers' handbook on the basic education curriculum for both primary and junior secondary education.
7. Gradual phasing out of the old curriculum by 2011 for J.S.S and 2014 for primary schools.
8. Capacity building of teachers of J.S.S and primary schools.
9. Development of 4000 sign languages for physically challenged learners.

To tackle the second challenge it is expected that the civil society and media will be involved in maximum mobilization and empowerment of the citizenry making easy and effective policy programme implementation. Feedback is expected from the media by the policy formulators.

Theoretical framework

The teacher is regarded as the key agent of change in the curriculum implementation process since he prepares the lesson and teaches to impart knowledge on the students. He is also the one to give feedback to the policy makers. Unfortunately most teachers are not involved in the policy planning process. According to Okoye (2007), it should be the role of the school administrators to establish a network of curriculum planning in which teachers are centrally involved. The issues in the network should involve organizing seminars, conferences and workshops on the curriculum.

Awareness of the new curriculum can come through such networks and the media. Teacher's personal effort is also required. In this research the 7-point awareness model developed by the researcher is considered in the classification of teachers' awareness level.



7-point awareness model developed by researcher (Atomatofa, 2009)

- Category 1 Teachers are those who are not aware of what the curriculum entails. They lack interest to find out for themselves the curriculum changes goals and objectives.
- Category 2 Teachers are those with little awareness that came by chance not by their effort. They lack interest to pursue its course.
- Category 3 teachers are those that have awareness but contribute only little to pursue its course. Non-chalant attitude, lack of motivation and incentive from employers.
- Category 4 teachers are those aware and ready to pursue its course. They go extra miles to ensure its objectives are meant
- Category 5 teachers are teachers fully aware and provide opportunity for students to be involved in the implementation process. They ensure their students understand the details of the curriculum goals.
- Category 6 teachers are those whose awareness goes beyond the classroom. They carry their students along with them. They ensure that students' experiences are expanded.
- Category 7 teachers are teachers whose awareness as a result of their personal involvement in the curriculum process gives them a complete understanding of what the curriculum entails.

Thus their students are trained to also have high awareness of the curriculum goals and this is evident in the product of such students when graduating

Teachers in category 1-3 have low awareness; those in category 4-6 have mid awareness while those in 6-7 have high awareness.

The implication of above model on the level of teachers' awareness is that teachers have different levels of awareness of the new curriculum. Some have little or no knowledge of it. Others have surface knowledge like the category 2 teachers whose awareness came by chance. Other teachers find themselves between category 4-7 and as the awareness increases they gets more involved in pursuing and achieving educational goals and objectives. In this research the teachers will be grouped into two levels- teachers aware and teachers not aware.

Anyone current with present teaching methods in science knows that lecture or teacher-centered method is eroding to more student or activity-centered method. Unfortunately in most schools, teachers' awareness is low and their effort to more to use activity based methods is minimal. In this paper we shall find out the awareness level of teachers in public and private secondary schools about the new 9-year basic education curriculum in Nigeria.

Purpose of study

This study was carried out to find out the level of awareness of public and private science teachers about the new 9- year basic education curriculum in Delta State, Nigeria. It is to find out whether the teachers understand the objectives of the new curriculum, its spiral structure, its design and their roles as implementers of the curriculum in the grass root levels. The new curriculum is different from the old one in several ways and teachers' awareness varies from school to school and from teacher to teacher.

Research Question

Is there a significant difference between the awareness of public and private school teachers' of the new curriculum?

Research Hypothesis

There is no significant difference between public and private school teachers' awareness of the new curriculum.

2. Methods

The design for this study is the survey design that involves the use of a simple instrument, the questionnaire comprising of 20 yes or no questions designed by the researcher with the assistance of professional colleagues who validated the instrument. The population for this study consists of 100 volunteer teachers, 50 from public and 50 from private schools in Delta State, Nigeria. The research made use of simple percentages to find out the awareness level of teachers in public and private schools in Delta state. The Z-test statistics was used to test if any significant difference exist between the teachers who are aware and those not aware of the new curriculum. Teachers were grouped into "aware" and "unaware" based on their responses.

The reliability coefficient was 0.60 using the Kuder- Richardson 21 reliability test formula. It was carried out using 30 science teachers who did not form part of the population sampled for this research work.

3. The Results

The table below shows a summary of the percentages of teachers aware and unaware of the new curriculum based on the responses of teachers through the use of the questionnaire. The questionnaire showing the response of the teachers is shown in the appendix section. The results are used for the analysis of the research hypothesis and to answer to the research question.

Table 1: Summary Showing Z-Test Results

Teachers compared	aware	%	X	SD	df	t-cal	t-cri	Remarks
Private sch. trs aware		27%	9.91	5.29	27	0.06	2.05	Accept NSD
Public sch. trs aware		29%	9.85	5.69				
Private sch. trs not aware		73%	14.13	7.49	71	0.13	1.96	Accept NSD
Public sch. trs not aware		71%	14.32	7.37				
Private sch. trs aware		27%	9.91	5.29	49	3.26	2.00	Reject SD
Private sch. trs not aware		73%	14.13	7.49				
Public sch. trs aware		27%	9.85	5.69	49	3.41	2.00	Reject SD
Public sch. not aware		73%	14.32	7.37				

Table 2. Awareness questionnaire for teachers

Questions	Public yes(aware)	Public No (unaware)	Private yes(aware)	Private No (unaware)
Have you seen the new curriculum, syllabus or scheme of work?	6	44	4	46
Are you aware of the new core elective subjects introduced?	5	45	3	47
Do you know integrated science is been replaced by basic science?	0	50	0	50
Do you know introductory technology is replaced by basic tech?	44	6	30	20
Do you know elementary science is replaced by basic science & tech?	40	10	40	10
Are you aware of the difference between the old and new curriculum?	43	07	37	13
Can you correctly state the philosophy for the new curriculum?	41	09	39	11
Have you seen or received any new list of book or texts materials	30	20	32	18
Did you hear of the new curriculum through the media?	00	50	00	50
Do you know the central common entrance exam to J.S.S1 is scrapped?	5	45	7	43
Do you know about family life/sexuality education?	30	20	26	24
Are you aware computer science/I.T is now compulsory?	20	30	21	29
Are you aware the curriculum is of 9 years of continuous schooling?	09	41	11	39
Do you know the curriculum does not mean a change from 6-3-3-4 to 9-3-4 system?	4	46	7	43
Have you been to any sensitization workshop organized by the federal or state government on the new curriculum?	27	23	23	27
Are you aware senior secondary school is now called post basic education?	11	39	15	35
Do you know the old primary school curriculum will have completely been phased out by June 2013?	4	46	0	50
Do you know the old junior secondary school curriculum is meant to have completely been phased out by June 2010?	4	46	0	50
Do you know the new curriculum will have completely been fully implemented by September 2015?	19	31	27	23
Are you aware the new curriculum started since Sept 2008?	3	47	2	48
<i>Total</i>	<i>367</i>	<i>883</i>	<i>335</i>	<i>915</i>
<i>X</i>	<i>9.85</i>	<i>14.32</i>	<i>9.91</i>	<i>14.13</i>
<i>SD</i>	<i>5.69</i>	<i>7.37</i>	<i>5.29</i>	<i>7.49</i>

4. Discussion of results

A close look at the results shows that only 27% of private schools science teachers and 29% of public science teachers are aware. And the Z-test analysis reveals 0.06 as t-calculated against 2.05 t-critical. Similarly, 73% and 71% of private and public science teachers respectively have no awareness and z-test analysis reveals t-calculated as 0.13 against 1.96 t-critical. Since t-calculated is less than t-critical in both cases then hypothesis is accepted. Thus there is no significant difference between private and public school teachers' awareness of the new curriculum. This means all teachers whether in public or private school have little or no awareness of the new 9-year basic education curriculum. The result of this research is contrary to information gathered from the 56th meeting of the national council of education (NCE) where universal basic education commission (UBEC) gave account of its activities in the past 6 years. Among top discussion was the implementation of the new 9-year basic educational curriculum. According to the Executive Secretary of UBEC, Moddibbo(2009), the Federal government disbursed N 113.5 billion for the provision of adequate qualified teachers for the new system, retraining of old teachers to fit into the new curriculum, organization of workshops conferences local and internationally amongst others. The new curriculum was intended to start primary 1 and junior secondary 1 since September 2008. He recalled that UBEC in collaboration with some training institution trained to master trainers for each of the 36 States and F.C.T., who will in turn train other teachers. In spite of these it seems awareness level is still low after 2 years from September 2007. Most teachers interviewed had no knowledge of or had very scanty knowledge of the new curriculum as at the time of the research in December 2012.

Not many teachers are aware that only 10% of the government intervention funds have been allocated for teachers capacity development to ensure that basic education receives appropriate professional development by keeping the teachers abreast with best practices in their fields; it was this low awareness that prompted the UBEC commission to inaugurate a perception index analysis (PTA) to review the level of coverage of the basic education subsection at both local and national levels.

According to Arheddo, (2009), how many teachers are aware that

1. The Basic education programme is expected to achieve a 100% transition of school age children in admission and promotion from one class to another?
2. 60% of teachers should have been trained to meet staffing needs?
3. Both teachers and students are expected to be aware of HIV/AIDS especially about its dangers preventions and care?

Science teachers have a lot of roles to play in the implementation of the new curriculum because of the science subjects changed but if they are not aware how will they successfully implement the changes. The sciences teachers need help to organize maximize and utilize laboratory materials science kits and improvise where necessary. The new curriculum means free and compulsory education for the first 9 years of schooling. As at 2008 about 8 million children of ages 6-11 are out of school and amongst them are future scientists whose talents may never be utilized.

Interestingly the Federal government early in 2009, called on state governors and owners of private schools to show seriousness in ensuring a successful implementation of the curriculum. (Olubusuyi, 2009). Apart from putting in place modern infrastructures, school proprietors including government and private need to enhance the professional standards of teachers and offer equitable remuneration.

Egwu (2010), the Minister of Education, puts it this way "there is need to train or retain the adequate number of teachers to effectively implement the curriculum". Training brings awareness and awareness brings new vigor in implementing the curriculum.

5. Conclusion

The result of this research reveals low level of awareness amongst public and private science teachers about the new curriculum. The new curriculum took effect since September 2008 in Nigeria but in Delta state most teachers have little or no knowledge of it as at the time of this research study in 2012 They have undergone no training nor receive adequate materials to fully implement it. Personal interview by the researcher with teachers places over 60% of the teachers between categories 1-3 which is low awareness level; 25% in categories 4-5 as mid awareness level and only 15% in category 6-7 as highly aware. Interview also reveals that most teachers have no training on the new curriculum. Materials available are very scanty and mostly photocopied materials. They just use what they can find to develop their notes of lesson which ought not to be.

To enable 100% awareness the following recommendations are made by the researcher

1. Massive awareness campaign by bodies like STAN, NERDC, National Union of Teachers (N.U.T.), and others. This should be done through involving all science teachers affected in workshops and seminars in all the zones so that the teachers can attend with minimal cost. Attendance should be compulsory and a certificate given which will be used during promotions.
2. The radio and television stations should put up programmes about the new curriculum in their talk shows and discussions so that people will be aware especially teachers and parents.
3. Debates and competitions should be organised by voluntary organizations with topics reflecting the new curriculum.
4. Since computer science is now compulsory more recent computers should be bought and teachers and students trained to become computer literate.
5. More materials should be made available for teachers to use and teachers should be monitored to ensure they use them.
6. The fixed prices for copies of the new curriculum should be used when selling to private school and not exorbitant prices making the private school owners unable to buy or to made photocopies.
7. NERDC staff should monitor the dissemination of the curriculum to public schools. Most public school principals and heads of schools are keeping the curriculum at home in their personal custody. The researcher had this knowledge when 2 of the principals she meant said they were given copies of some of the subjects both they were at home. Their staff had no access to them.

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