

Computer Science Education in Nigeria Secondary Schools – Gap Between Policy Pronouncement and Implementation

(Case Study of Northeast Zone Nigeria)

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Abstract - This study tends to look at gap between Nigeria National Computer Policy and current implementation of the computer education school practice. Policy dictates for computer hardware, maintenance and funding, teaching personnel and training, and computer curriculum were compared. Information was collected from 10 secondary schools (both public and private) located in Northeast Nigeria through a questionnaire administered to teachers and students were analyzed using frequent count and percentage statistics tools. This study is necessary particularly as Nigerian government agency, Joint Admission Matriculation Board (JAMB), implement compulsory Computer based Test (CBT).

Key words: *Computer Education, Gaps Between Policy Pronouncement and Implementation*

INTRODUCTION

Computer education is of paramount importance to national development and it is on this premise that the Federal government of Nigeria sought to introduce computer studies in the education system from primary through to secondary schools. Education systems around the world face formidable challenges that are taxing conventional strategies. Fresh approaches are needed to address persistent problems of the past and provide students with an education appropriate to the needs of a modern, information based global economy. Now, after more than two decades of unfulfilled promises to revolutionize education, computer and communication technologies are finally able to offer opportunities to significantly improve teaching and learning. In any educational system, the level of available resources places a restriction on the degree to which any new subject can be introduced into the school curriculum, especially where only the most basic facilities have so far been provided. But information communication technology is of such importance to the future industrial and commercial health of a country that investment in the equipment, teacher education, and support services necessary for the effective delivery of an information communication technology based curriculum should rank high in any set of government priorities. The curriculum proposed takes account of these resource issues and specifies minimum requirements for effective delivery in different circumstances (UNESCO, 2004).

Reasonable computer studies are yet to start in Nigerian secondary schools, the computer-student ratio is small,

funding by government has not been encouraging, computer education syllabus is unpopular among students and parents and thus hardly implemented, and teachers are inadequate to implement computer education (Jegade and Owolabi, 2003).

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Teachers in Nigerian secondary schools cannot implement computer education because majority of the teachers are not competent in basic computer operation and in the use of simple application software (Yusuf, 2005). Teachers require access to information and communication technology infrastructure for a number of reasons. These include their need to live as citizens in a world undergoing rapid and major transformations as a result of increased use of information communication technology, their need to embed information communication technology use in their teaching and administrative duties and, increasingly, their need to use information communication technology in their professional studies (Burnip, 2006).

Lau and Sim (2008) in Aboderin and Owolabi (2014) propose the need to put in place measures to ensure that adequate access to technical support is provided. Lau and Sim (2008) established that teachers needed training which should be offered on a continuous, rather than a one off basis so that their computer knowledge is upgraded over time. Due to the fact that computer education has failed to take off in the majority of schools in Nigeria, fears are that

technological development may be a pipe dream for the country. Given this scenario, it is necessary for this study to look into the gap between policy pronouncement and implementation of computer education in Nigerian secondary schools.

METHODOLOGY

Research Questions / Objectives of the Study:

This study is aim at seeking the answers to following questions:

1. Are the computer resources available in the schools?
2. Do you have trained manpower to teach the Computer education subject in the schools?
3. What remedies can be put in place to ensure that computer education is fully implemented in schools?

Sampling

This study involves one hundred and fifty students and teachers selected from ten schools from the Bauchi State through cluster sampling technique. Fifteen students and teachers were randomly selected from each school. The author constructed questionnaire which was validated by

two Computer Education Senior Lecturers from College of Education, was used to obtain information from the designated respondents, the instrument was distributed to respondents and was collected back twenty four hours later. One hundred and three students and teachers returned the completed questionnaire giving about 68.7% valid responses for analysis. Questionnaire with following sections were designed.

Section I: Pertains to Demographic Data, seeking the details on Gender, Class of teacher, Area of Specialization, etc.

Section II: Ascertain the Availability of computer resources in secondary school.

Section III: Ascertain the Availability of trained manpower to teach computers in secondary schools, and environment for computer education with regards to Content Delivery, Interactions with the school and Evaluation Process.

Section IV: Ascertain remedies to ensure that computer education is fully implemented in schools.

The valid responses were analyzed using frequency counts and percentage statistical tools.

RESULT AND DISCUSSION:

The results of the analysis of data obtain through the instrument of study are presented below:

a. *Ascertain the Availability of computer resources in secondary*

Table 1:

S/N	ITEM (S)	YES	%	NO	%
1	Do you have computer laboratory in your school?	61	59.2	42	40.8
2	Do you have enough Computers available in your laboratory, and are there enough computer accessories in your school laboratory?	31	30.1	72	69.9
3	Is Computers in the laboratory are functioning well?	22	21.4	81	78.6
4.	Do you have stable electricity supply in your computer laboratory?	11	10.7	92	89.3

From table 1 above, there were four statements ascertain the availability of computer resources in secondary schools, it can be seen from the majority of respondents agreed that Computer Education resources are not adequately available. For all the items of the questionnaire ascertaining the availability of computer resources for the training of Computer Education in secondary schools indicated that the resources are not there as supposed. Responses to the instrument show that, most respondents hold the view that there is a gap between policy pronouncement of one

computer system set for a group of not more than two student as state by National Commission for College Education (NCCE,2004).

b. *Ascertain the Availability of trained manpower to teach computers in schools, and environment for computer education with regards to Content Delivery, Interactions with the school and Evaluation Process.*

Table 2:

S/N	ITEM (S)	YES	%	NO	%
1	Are there any teachers to teach computer education in the school?	11	10.7	92	89.3
2	Do you have qualified teachers to teach computer education?	31	30.1	72	69.9
3	Are there any in-service computer education training programmes for teachers?	22	21.4	81	78.6
4.	Do the teachers willing to teach the subject in the school?	11	10.7	92	89.3
5.	Are there any teachers to teach computers education in the school?	61	59.2	42	40.8
6.	Are the teachers qualified to teach computer education?	09	08.7	94	91.3

In table 2, there were six statements determines the trained manpower to teach computer education in schools, for computer education with regards to Content Delivery, Interactions with the school and Evaluation Process. The result shows that, most respondents hold the same view that

necessary trained manpower were not available and environment for computer education with regards to Content Delivery is just for formality sake, Interactions with the school and Evaluation process were nothing but mess.

c. Ascertain Remedies to ensure that computer education is fully implemented in schools

Table 3:

S/N	ITEM (S)	YES	%	NO	%
1	Government to provide funding to schools for computer procurement	103	100	00	00
2	School authority Source for funds and computers from well wishers	98	95.2	05	4.8
3	Government to charge levies for computer education	00	00	103	100
4.	Invigorating the training of manpower to teach computers in schools	101	98.1	02	1.9
5.	Government to make it compulsory for schools to offer computer education.	101	98.1	02	1.9
6.	There should be regular in-service training for computer education.	103	100	00	00
7.	All the stakeholders are willing to have computer education succeed in the school system.	103	100	00	00
8.	Computer education should be accorded the same number of hours per week as other subjects?	103	100	00	00

From table 3, In ascertaining remedies to ensure that computer education is fully implemented in schools, There were eight items to ascertain remedies to ensure that computer education is fully implemented in schools. Majority disagreed that Government should charge levies for computer education while all the respondents 103(100%), suggested that Government to provide funding to schools for computer procurement. Invigorating the training of manpower to teach computers in schools was suggested by an overwhelming majority of 101(98.1%). A majority of 101(98.1%) thought that sourcing for funds and computers from well-wishers would contribute significantly to the implementation of computer education in schools.

Majority of the respondents 103 (100%) indicated that Government should make it compulsory for schools to offer computer education. Majority of the respondents 103(100%) suggested that teacher support through in-service training for computer education teachers should be regularized. This is in agreement with the findings by Krysa (1998) in Aboderin & Olukayode (2014), who identifies administrative support as enabling successful implementation of computer education in the school system.

CONCLUSION

From the findings and the results obtained from the study of the data gathered in this research indicated that majority of the schools do not have computer resources. This is because the computer facilities are not available for teacher and student access. The result shows that, necessary trained manpower were not available and environment for computer education with regards to Content Delivery is just for formality sake, Interactions with the school and Evaluation process were nothing but mess. The finding further revealed that teachers' lack of computer skills hinders the effective implementation of Computer education in secondary schools. It is to be noted that effective implementation of Computer education in secondary schools brings about effective teaching and learning and contributes to the performance of the students.

The finding of the study also revealed that few Computer education components especially computers supply to the schools are not sufficient to go round the students and this deny the students of complete access to them, putting in consideration of what is obtainable in policy pronouncement of one computer system set for a group of not more than two

student as state by National Commission for College Education (NCCE,2004).

This study strongly agreed with the study by Jeter H. that "There is a wide disparity between policy pronouncements and policy implementations in Africa" (Jeter, 2002). The Minister for Science and Technology, Professor T. Isoun , was mindful of this when he posited that the formulation of an information technology (IT) policy constituted only about 20% of the IT solution for the country, but the remaining 80% lies with implementation (Isoun, 2001). It can be also inferred from the study that administrator has a greater role to play as necessary infrastructure require in delivery and study of computer education is not in place.

Recommendations

The researcher strongly suggests that the government should provide enough funds for schools to purchase computer for instructional purposes and make available suitable computer environment in our secondary schools. Curriculum developers should make computer education one of the core subjects to be offered in secondary schools. ICT Professionals should organize training for teachers on how to utilize ICT facilities in solving everyday educational problems and Communities should be enlighten on the importance of computer education. If the is done, it will go a long in bridging the gap between computer education policy pronouncement and implementation.

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