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Education for Sustainable Development: The Junior Secondary School in Nigeria.

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Education is important for economic growth, social integration and the building of democracy (Cox, 2004). According to Cuadro and Moreno (2005: 17), secondary education " has been shown to contribute to individual earnings and economic growth. It is associated with improved health, equity and social conditions. It buttresses democratic institutions and civic engagement" All over the world, the secondary school system has been seen as the gateway to providing not only an educated citizenry but also a capable workforce. As the level between the primary (elementary) school and higher education, this level in its broadest sense aims at continuing the basic skills competencies (literacy, numeracy, computer literacy, introduction to careers, social skills and citizenship education) began in elementary schools and preparing students for the world of work, higher education and to be productive members of the society. According to the World Bank, (2006) "Secondary education is now being recognized as the cornerstone of educational systems in the 21st century. Quality secondary education is indispensable in creating a bright future for individuals and nations alike."

In Nigeria, secondary education plays a crucial role in both the development of the individual and the society. According to the National Policy on Education (2004), Nigeria's philosophy of education is based on three broad areas:

- a. the development of the individual into a sound and effective citizen
- b. the full integration of the individual into the community
- c. the provision of equal access to educational opportunities for all citizens of the country at the primary, secondary and tertiary levels

In furtherance of this philosophy, the goals for education as set in the National Policy on Education (2004) include –

- i. the inculcation of the type of values and attitudes for the survival of the individual and the Nigerian society
- ii. the training of the mind in the understanding of the world around, and,

iii. the acquisition of appropriate skills and the development of mental, physical and social abilities and competencies as equipment for the individual to live and contribute to the development of the society.

The National Policy on Education (2004:13) also specifies that secondary education shall-

- a. provide all primary school leavers with the opportunity for education of a higher level
- b. offer diversified curriculum to cater for the differences in talents, opportunities and future roles;
- c. provide trained manpower in the applied science, technology and commerce
- d. inspire students with a desire for self improvement and achievement of excellence;
- e. raise a generation of people who can think for themselves

Before 1999, the secondary school was of five year duration, highly selective, with assessment centered on high stakes testing. With the Federal Government accepting the Education for All concept and the reforms in secondary education worldwide, Nigerian secondary school is now divided into the junior secondary school lasting three years and the senior secondary school, also of three year duration. According to the National Policy on Education (2004:14), the junior secondary school shall be "tuition free, universal and compulsory". This paper will -

- 1. discuss recent improvements in junior secondary school education as a means for sustainable development
- 2. provide data on how students perceive education as a tool for personal development and social transformation
- 3. suggest strategies for enabling the junior secondary school to continue to be a vehicle for sustainable development.

Recent Improvements in Secondary Education

The Issue of Access:

To encourage access, the number of secondary schools have steadily increased between 2000 and 2003. Table 1 below gives number of secondary schools in Nigeria 2000-2003

State	2000	2001	2002	2003
Akwa Ibom	171	171	258	464
Anambra	227	227	250	476
Benue	117	117	277	332
Cross River	195	195	239	514
Edo	293	293	285	652
Enugu	216	216	231	450
Imo	133	133	186	369

Kaduna	166	166	239	336
Kano	286	286	296	346
Lagos	329	329	336	844
Оуо	399	399	401	449
Taraba	54	54	68	118
Nigeria (all 36 states and Abuja)	8292	8293	8838	12,573

Adapted from "Number of Secondary Schools in Nigeria, 1999-2003" Universal Basic Education Commission, 2003. Retrieved online <u>http://www.ubec.gov.ng</u>, August 24, 2006

Table 1 above shows that the number of secondary schools increased from 8292 in 2000 to 12,573 in 2003, showing a 34% increase.

There has been an improvement in the number of students attending secondary school over a thirteen year period (1991-2004). Table 2 below shows the net enrollment ratios and gender enrollment ratios over the period. In 1999, the net enrollment ratio was 19 %, increasing to 27 % in 2004. There was also an increase in terms of gender ratios- from 21 % for females in 1991 to 31 % in 2004, an increase of 10 %.

Table 2: Net Enrollment Ratios and Gender Enrollment Ratios for Secondary Schools in Nigeria 1991-2004

Secondary		1991	1999	2002	2004	2004
				2002	2004	Regional average
GER	MF	25	24		35	30
(%)	М	29	25		38	33
(70)	F	21	23		31	26
NER	MF		19		27	24
(%)	М		20		30	26
	F		18		25	21

Source: UNESCO Institute of Statistics (2005) "Statistics in Brief: Education in Nigeria" Online http://www.uis.unesco.org/profiles/EN/EDU/countryProfile_en.aspx?code=5660

In September 1999, the Federal Government began implementing universal basic education that made education free and compulsory for the first nine years of schooling (Primary 1 to Junior Secondary School 3) The first set of students that graduated from the primary school entered the junior secondary school in Fall 2006. According to Tahir (quoted in Ola 2006), the Federal Government has decided "to disarticulate junior secondary school from the old secondary school system and abolish entrance examination. There is another policy which encourages the setting up of junior secondary school besides primary schools". All these policies are expected to make transition easier to junior secondary school and invariably increase the number of students attending junior secondary school. Overall, according to Tahir (in Dike, 2006), there are about 24 million children in junior secondary school

An Introduction to Pre-Vocational /Technical education

In the past, the Nigerian secondary school system followed the British model- five years of high school, two years of higher school and then entry into university system. Both the Phelp-Stokes report 1920-21 and Ashby Report criticized this system of education for not meeting the needs of the nation (Adesina, 1988) In the 1970's and 1980's, there were continuing efforts at curriculum reform to cater to the needs of the nation and to make the curriculum more relevant. This began with the 1969 National Curriculum Conference and led to the National Policy on Education (1979). In the 1981 edition of the National Policy on Education, the Federal Government states that the objectives of vocational-technical education will include:

- a. to provide manpower in applied science, technology and commerce, particularly at subprofessional grades;
- b. to provide the technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development;
- c. to give training and impart the necessary skills leading to the production of craftsmen, technicians and other skilled personnel who will be enterprising and self reliant;
- d. to enable our young men and women to have an intelligent understanding of the increasing complexity of technology.

The National Policy on Education (2004:14-15) in response to the continued efforts at making the curriculum more relevant and encouraging vocational education, states that the junior secondary school shall be both pre-vocational and academic. One of the core courses to be taken by all students will be Introductory Technology and students are expected to take at least one course from the following:

- e. Agriculture
- f. Business Studies
- g. Home Economics
- h. Local Crafts
- i. Computer Education
- j. Fine Arts
- k. Music

Using continuous assessment to chart student advancement

According to the National Policy on Education (2004:17), "The Junior Secondary School certificate shall be based on continuous assessment and examination boards". Presently, there is therefore the added effort to use continuous assessment at primary through end of secondary school as the most important medium for assessment and determining pupil progress Osunde (2005) points out that at the junior secondary school level "continuous assessment of pupils takes 60% while the final examination at the end of the programme takes only 40%." However, although the concept of the use of continuous assessment for formative and summative purposes are laudable, Kolo and Ojo (2005) found out that because of the large classes, many

teachers do not regularly mark students work. "When called upon to submit continuous assessment scores, some teachers arbitrarily cook up scores in favor of few. This undoubtedly affects assessment and quality of education".

Teacher Quality and Student Learning

According to the National Commission on Teaching and America's Future, "What teachers know and can do is the most important influence on what students learn". Therefore, the Commission continued, the recruiting, preparing and retraining good teachers is central to school improvement. Teachers must be in environments that encourage good teaching. There has been tremendous effort to improve teacher quality in the schools. Table 3 below shows the number, level of qualification and percentage of qualified teachers in Nigerian secondary school for 1999-2003

Level	1999	2000	2001	2002	2003
Graduates Qualified	14009	15920	18532	18303	79216
Graduates Unqualified	48902	51771	55914	59308	27939
NCE & Equivalent	49399	51017	52367	48907	61148
Total Teachers	114655	120884	129225	134366	180278
% Qualified	55.3	55.4	54.9	50.0	77.9

 Table 3: Summary Statistics on secondary school teachers 1999-2003

Source: Federal Republic of Nigeria and the International Labor Organization (2005) "Teachers for the Future: Meeting teacher Shortages to Achieve Education for All" http://www.ilo.org/public/english/dialogue/sector/ap/educat/forums/docs/pretoria-nigeria-report.pdf

Table 3 above shows that the percentage of qualified teachers jumped from 55 % in 1999 to 77.9 % in 2003. The number also increased from 114,655 in 1999 to 180,278 in 2003.

Table 4 below shows the Gender Distribution of teachers for 1999-2003 school years.

Year	Male		Female
1999	68,816	(53%)	46,100 (47%)
2000	71,127	(54%)	49,894 (46%)
2001	75,060	(53%)	54,474 (47%)
2002	80,780	(60%)	54,196 (40%)
2003	111,008	(62%)	69,270 (38%)

Table 4: Gender Distribution of Teachers, 1999-2003

Source: Federal Republic of Nigeria and the International Labor Organization (2005) "Teachers for the Future: Meeting teacher Shortages to Achieve Education for All" http://www.ilo.org/public/english/dialogue/sector/ap/educat/forums/docs/pretoria-nigeria-report.pdf

Data above shows that while the number of male and female teachers increased between 1999-2003, there were more male teachers than female teachers and the percentage of female teachers decreased between 2001-2003.

With the importance of secondary education for capacity building, a study was designed to find out the perceptions of junior secondary school students on several aspects of their education. How did they view education as a tool for personal development and social transformation? How did they view technology and the benefits of technology in teaching and learning etc. 230 junior secondary 2 and junior secondary 3 students were selected by random sampling from four secondary schools in Akwa Ibom State of Nigeria. They were each given a 25 item questionnaire to complete. The questionnaire was administered early 2006. The focus of the questionnaire was four fold:

- a. what were their perceptions on the use of education as a tool to enable students to be good citizens
- b. what were their perceptions on their schools doing enough in teaching them reading and writing skills
- c. what were their perceptions of the importance of technology for teaching and learning now and in the near future
- d. what were their perceptions of the relevancy of school to their daily lives

190 students provided usable data. Of the 190 students, 103 were girls and 87 were boys. The age range was 11-15 with age 13 being the mode. Data was analyzed using percentages.

Issue # 1: Education as a tool for preparing good citizens

Schools have often been thought of as an agency that is used for personal development and social transformation. Through schools, the values of society are imparted to children and the young. Society depends on the schools to educate the young to become responsible and enterprising citizens. In line with this, the National Policy on Education (2004:13) states that secondary education shall:

- a. inspire students with a desire for self-improvement and achievement of excellence;
- b. foster National unity with an emphasis on the common ties that unite us as a society
- c. raise a generation of people who can think for themselves, respect the views and feelings of others etc.

Table 5 below shows student perceptions on how the school is preparing them on some of these issues.

Table 5: Education and Citizenship

Item	Strongly Agree/	Disagree/ Strongly
	Agree (%)	Disagree (%)
My school provides me tools to be a good	89.47	10.53
citizen		
My school provides me with opportunities to be	82.3	17.7
able to work with others from other		
cultures/tribes		

A high percentage of students (89.47) Strongly Agree/Agree that schools are providing them with tools to be a good citizen. Also 82.3 % of respondents Strongly Agree/Agree that schools provide them with opportunities to work with others from other cultures/ tribes. This is very important given that Nigeria is a multicultural society and the issue of national unity is always important.

Issue 2: Are the schools doing enough in teaching reading and writing skills?

The acquisition of literacy skills is important for personal development and the level of literacy skills acquisition at all levels of the educational ladder is an important indicator of the level of national development. Youth literacy rate is increasing –from 55.2% in 1980 to 88.6% in 2004 (UN Common Database, 2004). Data below in Table 6 shows that 93.68 percent of respondents Strongly Agree/ Agree that their school does enough in teaching writing and 73.16 percent of respondents Strongly Agree/Agree that their school does enough in teaching them reading skills.

1 1 0	1 0	0
Item	Strongly Agree/	Disagree/ Strongly
	Agree (%)	Disagree (%)
My school does enough in teaching me writing	93.68	6.32
skills		
My school does enough in teaching me reading	73.16	26.84
skills		

Issue # 3: Importance of technology for teaching and learning now and in the future

Computers make available large bodies of knowledge to students from a global perspective. According to Cradler (1994:1), research on technology use shows that technology can increase opportunities for student constructed learning, significantly improves problem-solving skills of learning handicap students and improves writing skills and attitudes about writing for urban Limited English Proficient students. In agreeing with some of these ideas, Maddux, Johnson and Willis (2001:1) point out that

"Computers have the potential to revolutionize teaching and learning." Forcier (1999: 8) points out that computers have already revolutionized teaching and learning since learning is now moving from lecture to coaching, from whole class to small group instruction, from an emphasis on verbal thinking to the integration of visual and verbal thinking. Given the crucial role technology plays in teaching and learning, it is informative to find out what junior secondary school students think about technology in teaching and learning.

Table 6 below presents data on student perception of the importance of computer technology for teaching and learning now and in the near future

Item	Strongly Agree/	Disagree/ Strongly
	Agree (%)	Disagree (%)
My school does enough in teaching me how to	23.16	76.84
use the computer effectively to find information		
My school does enough in teaching me how to	42.1	57.9
use the computer effectively to analyze		
information		
My school does enough in teaching me how to	27.9	72.1
use the computer effectively to interpret and		
evaluate information		
The use of technology for educational	95.26	4.74
purposes will increasingly become important in		
the near future		
In the future, technology use in the schools will	71.1	28.9
change the ways we learn		
As a result of the importance of computers in	83.16	16.84
the future for learning and in the workplace,		
more time should be spent teaching students		
computer skills		

Table 6: Importance of computer technology for teaching and learning

Only 23.16 percent of the respondents Strongly Agree /Agree with the statement "My school does enough in teaching me how to use the computer effectively to find information" and 27.9 percent of respondents Strongly Agree/ Agree with the statement "My school does enough in teaching me how to use the computer effectively to interpret and evaluate information" However, notwithstanding these very low percentages, 95.26 percent of the respondents Strongly Agree/ Agree that the use of technology for educational purposes will become increasingly important in the near future. As a result of this, 83.16 percent of the respondents Strongly Agree that more time should be spent teaching students computer skills.

Issue #4: What was the relevancy of schools to their daily lives

What is the relevancy of school to students? In an environment where many students easily pulled off school to go and work in the farm or engage in some "useful" trade for the family, how do students view the usefulness of what is happening in school now and for their future?

Item	Strongly Agree/	Disagree/ Strongly
	Agree (%)	Disagree (%)
What happens in school is relevant to my life	75.26	24.74
now		
I think that what happens in school now is	56.92	43.08
relevant to my life in the future		

In terms of student response, 75.26 % of respondents Strongly Agreed/ Agreed that "What happens in school is relevant to my life now" However, only 58.92 percent of respondents Strongly Agree/Agree with the statement that "I think that what happens in school now is relevant to my life in the future"

Looking at the Future: Strategies to Ensure JSS Continue to be a Vehicle for

Sustainable Development

Technology and Learning

Students pointed out that schools are not doing enough to help them use the computer to find information, analyze information and evaluate information. Given the importance of technology in teaching and learning, schools must do more to integrate technology in the curriculum. As reported by Zehr (2004) "one of the biggest obstacles to bringing technology to schools in Africa is a lack of sufficient infrastructure, such as phone lines and electricity" This is an area which the various governments have to address. In a global community, students will be left behind if they are not given computer skills and if they cannot use this to find, retrieve, analyze and evaluate and use the information to solve problems. Closely allied to this is the fact that training teachers on how to integrate technology into the curriculum would enable teachers to use the most relevant and up to date materials, would increase relevancy of content and be very useful in providing the broad and balanced education students need in a developing economy like Nigeria. In a study on computer use in Nigerian secondary schools, Jegede and Owolabi (2003) pointed out that only 17 percent of teachers observed were truly qualified computer education teachers and that "almost 80% of the junior school students interviewed agreed that they could not operate computers". Degree programs in Computer Education should be developed in more Colleges of Education and Faculties of Education to train prospective teachers in the area.

Teachers

Teachers are the most important force in the implementation of the curriculum and their efforts at providing quality education for students and raising student achievement cannot be underestimated. According to Hammond (2001) the single most important "determinant of what students learn is what their teachers know. Teacher qualifications, teacher knowledge and skills, make more difference for student learning than any other single factor. .. if we want to improve student learning.. invest in teachers' learning" In a recent study of secondary schools in four states in Nigeria, Obanya (2006) found out that there were shortfalls in the supply of teachers in all the states studied. There were even shortages of teachers in such subjects as religious studies and commerce and even Nigerian languages. Mathematics and vocational/technical subjects were the areas worst hit according to Obanya. Data presented earlier in Table 3 show there is an increasing improvement in the number of qualified teachers. However, the push must continue for (a) better trained teachers (b) trained teachers who understand the junior secondary school philosophy and can work with students at this level (c) teachers who can use technology for teaching (d) teachers who encourage problems solving strategies and reflective practice from students.

Policy makers also must ensure that teachers are paid on time and are paid living wages and that programs are developed that would encourage more people to go into teaching. In the 1970's and early 1980's, scholarships/ bursaries were given to students who were preparing to be teachers. Government may want to continue such schemes or to begin programs as done in some states of the United States where students are given loans to complete their teacher education program and these loans are forgiven when they serve in certain areas (mostly in areas of dire need)

Prevocational/ Technical Education.

Nigerian education can be described as a situation where you have "one step forward, two steps back" A review of the situation points to this anomaly. Attempts have been made to introduce vocational/technical courses to the curriculum. Yet there has been little progress. As Nwagwu (nd : 7-8) reported, "Specialist teachers are in short supply especially in areas like woodwork, auto-mechanics and metal work… most of the technical workshops especially in the rural schools are lying waste… and the curriculum is not related to the needs of the employer" Oni (2006) points out that vocational –technical education in Nigeria faces some staffing problems, student enrollment problems and financial problems. Obioma (in Dike 2005) pointed out the poor attitudes that are prevalent among Nigerian students to vocational education warning that "no country can develop without the application of technical and vocational education and training" Apart from the need to train, as a matter of urgency, teachers in this area, there is also the need for government to mount a vigorous campaign to encourage parents to send their children to technical colleges and for the pay of graduates of these programs to made more lucrative.

Access

Pandit (1988:5) pointed out that in 1980, "66percent of pupils could not get admission into secondary schools. The rates of unsatisfied demand varied from 65 to 80 percent in ten states in Nigeria" Recent data still shows the low access to secondary education in Nigeria. According to Huebler (2005), only 35.1% of children of the age group 12-17 years attend secondary school. For boys, the net attendance rate (NAR) was 37.5 % and 32.6 % for girls. Data also continues to show lower enrollments in the northern states. The junior secondary school with transition aimed at 100 percent from primary school will go long way to improving enrolments for all sections of the nation. However, 100% transition rate will not be achieved without classrooms and teachers to teach the students. No nation can rise above its own educational system.

Relevance

The issue of relevance will always be pertinent in the discussion of Nigerian education given the colonial past. Educators and policy makers are often confronted with such questions as, How relevant is the curriculum? How is the curriculum meeting the goals of the nation? How relevant is the teaching strategy employed by the teacher in light of the new technologies- computer, the internet etc, new models of teaching and our understanding of students? How relevant are the textbooks in meeting the learning styles of students? Although 75.26 percent of respondents Strongly Agree/ Agree that "What happens in school is relevant to my life now" yet, only 56.92 percent of respondents Strongly Agree/Agree that " what happens in school now is relevant to my life in the future" This calls for an added push to make the curriculum more relevant to students. Some strategies include

- Linking school with the world of work
- Continued indigenization of the curriculum at the junior secondary level
- Better school community relations so that individuals in the community can come in as guest speakers and provide another world view to students
- Linking education to problem-solving
- Building on student's prior knowledge
- Encouraging and practicing curriculum integration

Conclusion

Education continues to grow and evolve in Nigeria. At the secondary school level, this evolution has led to a 3-3 system, with three years of junior secondary and three years of senior secondary. Growth has occurred in the areas of total numbers of students in school and the number of classrooms to take care of these numbers, in the number of girls attending school and in the total number of qualified teachers. While there have been conscious attempts to improve the education- *National Policy on Education*, improvements in the quality of the teaching force, improved access, attempts at vocational/technical education etc, several problems still remain. According to UNESCO (2005), "Secondary education systems must be reformed so

as to enable young people to develop into productive, responsible personalities well equipped for life and work in today's technology-based, knowledge society." In Nigeria, the reformation would have to be in the areas of improving student attitudes towards vocational –technical education, continuing to make educational offerings relevant to the needs both of the individual and the nation, continued teacher development through programs to train new teachers and programs to retool and improve teaching techniques for current teachers There must also be a consciousness that in a global community, education must move from rote learning, drill and possession of factual information to problem-solving and critical thinking, from focus on arts and the humanities to focus on science, mathematics and technology, from teacher as being the chief dispenser of knowledge to facilitator and coach, and that access must continue to be encouraged for all. In the questionnaire administered to more than 200 junior secondary school students and returned by 190 students, it was found out that a large percentage of respondents indicated that:

- a. their schools provided them with tools be good citizens
- b. their schools did enough to teach them writing and reading skills
- c. schools need to do more in teaching students how to use computer technology/ internet to find information
- d. schools need to do more in teaching students how to use computer technology/ internet to interpret and evaluate information

This paper has suggested some strategies to enable the junior secondary school to continue to be a vehicle for sustainable development.

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