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INTRODUCTION TO VOLUME 5, NUMBER 2, JUNE 2005

The intricate relationship between education and human development concern continues to be the focus of research activities among contributors to this issue. Contributors include active student and faculty researchers from Africa and the United States with various and varied interests.

Dr. Nelson Akpotu examined the relationship between the level of educational attainment of families and their family size. The study identified several factors responsible for enlarged Southern Nigerian family size. The implications of the study on education planning in Nigeria are discussed.

Indigenizing secondary school curriculum in Ghana interested Fredua-Kwarteng, a doctoral student in OISIE of the University of Toronto in Canada. The question: Does secondary school curriculum reflect Ghanaian Culture?" was critically examined by the author. Suggesting two curricular models towards indigenization of secondary school curriculum in Ghana, the paper argues that it is through genuine indigenization of the curriculum that Ghanaian cultures can be respected and accorded much deserved recognition and legitimacy.

The inadequacy of space for qualified candidates in institutionalized traditional approach of formal education in Nigeria prompted Nelson Akpotu and Mon Nwadiani to study the concept of distance education in Nigeria: the types, emergence and popularization, characteristics, problems, abuse, etc. The study concludes that in spite of the numerous teething problems facing distance education in Nigeria, the concept is a welcome development. The authors suggest strategies for improving the management of distance education in the country.

Dr. A.E. Oguntade's study assessed the distribution of primary and secondary schools educational infrastructure in Lagos State of Nigeria using the dissimilarity index and gini coefficient, among others. Results of the study showed that inequality existed and rural/agricultural local governments are disadvantaged. The author suggested that the government should monitor the distribution of educational infrastructure and plans new ones in such a way that inequality will be minimized.

Dr. Mudasiru Yusuf looked at the availability of Information and Communication Technologies in Nigerian tertiary institutions. His conclusions were that while ICTs are relevant to all aspects

of tertiary education, they have not been widely integrated in teaching and research. He therefore recommends that faculty and staff be given adequate professional development training to achieve the integration of ICTs in those institutions.

Providing resources for effective integrated science teaching in Nigerian secondary schools was the subject of the study done by Drs. Ekpo, Usoro, Akpan and Mrs. Inyang. The authors contend that inadequate knowledge of what science is, what level it should be taught, and what category of children should be exposed to science are some of the problems associated with the teaching of the subject in Nigeria. The authors made useful recommendations to the Nigerian governments on how to achieve technological advancement through effective teaching of integrated science.

Dr. Steve Bassey examined Universal basic education implementation in Akwa Ibom State of Nigeria. His conclusion was that all stakeholders in the Nigerian educational sector must stop paying lip service to the implementation of the program if illiteracy would be eradicated in the year 2010 as planned.

Cisco Magagula and Mdluli Adumiso studied the relationship between orientation to teaching and academic performance of pre-service student teachers in a Swaziland college. Using a descriptive survey method, the authors collected data from 147 pre-service student teachers by questionnaires. The study found that pre-service student teachers who had positive attitude towards the teaching profession tended to perform better than those who had a negative attitude; although the tendencies were statistically insignificant and therefore not the conclusion of the study.

An investigative study of innovation and reform in the education system of the kingdom of Lesotho is the summary of a dissertation project by Dr. Nana Boaduo. The conclusion of the study was that the Lesotho education system had problems of both universal and local ramifications.

Eugenia Ukpo on study leave at the University of Bristol's Graduate School from National Teachers' Institute, Kaduna, Nigeria analyzed some of the challenges and obstacles facing professionalization of teachers in Nigeria focusing on the official and actual positions of teachers. Suggestions were made for the future development of teacher education and professionalism in Nigeria.

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**Education As Correlate Of Fertility Rate Among
Families In Southern Nigeria
Dr. Nelson Ejiro Akpotu**

ABSTRACT

The study examined the relationship between the level of educational attainment of families and their family size. *The study identified educational attainments, urban and rural dwellings as correlates of fertility rate among families in Southern Nigeria. The analysis revealed that education and fertility rate are inversely related, both in urban and rural societies. However education was found to be more inversely related to fertility among women and urban dwellers than men and rural dwellers. The Nigerian love for children, their polygamous nature, irrespective of their educational attainment and the need for a particular sex of children, among others, were identified factors responsible for enlarged family size.*

BACKGROUND TO THE STUDY:

The world emphasis on the importance of education in the process of socio-economic development of nations can hardly be over exaggerated. The continuous emphasis on the importance has informed the developing countries priority attention to the expansion of their educational systems. In Nigeria, expansions in education over the years have been enormous. Between 1960 and 1998, primary school enrolment increased from 2,912,619 to 17,942,400 or 516% rate increase. For the same period, secondary school enrolment rose from 55,235 to 6,056,700 or 10,865% increase while university enrolment increased from 71,095 to 249,287 or 250.64% rate increase between 1980 and 1999 (Okobiah, 2002).

This level of educational expansion can only be appreciated when examined in relation to the corresponding population. World demographic data about Nigeria presents a frightening picture of a population crisis with grave consequences on the socio-economic and educational development of the country. For example, the Nigerian population has grown steadily from about 56 million in 1960 to 127 million in 2001 and is projected to rise to 204 million in the year 2025 (2001 world Population Reference Bureau – PRB). This represents a growth rate of 126.79% and 60.63% for the periods respectively. Indeed, this demographic trend of high fertility rate with 44% of the population being 15 years and below has enormous implicative contributions to swelling student enrolment figures. Also, the economic strain of maintaining and expanding the coverage of the educational system can be overwhelming.

Since the publication of the popular Malthusian Thesis on population, world leaders, demographers, educational planners, development economists and many international bodies like the World Bank, United Nations, UNDP, UNICEF and the World Population Bureau have made remarkable contributions towards population control, particularly in the developing countries. In particular, the 1994 International Conference on Population and Development (ICPD), held in Cairo further stimulated governments and these bodies to begin to formulate population policies to stem population growth through improvement in the lives of women and the populace.

In spite of the deliberate efforts by these bodies to educate the world on the consequences of a growing population, the growth rate in world population has been unprecedented in world

history. However, the developing countries of Africa, Asia and Latin America have a greater proportion of the world population.. For example, while average births per woman in the year 2000 remained 1.5 for developed countries, 2.8 for Asian and Latin American/Caribbean countries; for African countries, it was 5.3. Of the six billion people in the world by 2000 AD., 4.9 billion or 81.67% live in the developing nations (Ashford, 2001). That much has not been achieved in the developing countries by way of reduction in fertility rate has been very obvious for the fact that most of their populations are mainly youths who are likely to either be in their child bearing ages or approaching it. This implies that world population must continue to grow and hence family planning is imperative.

Beginning from the 1974 World Population Conference in Bucharest with the theme “Development is the best contraceptive” two important determinants of fertility decline have been identified namely: (i) organized family planning programs and (ii) education, urbanization, modernization and economic development. These two determinants are being received with mix feelings For instance, the African traditional and religious values as well as the Christian and Islamic doctrines do not accept the use of contraceptives as family planning mechanism. On the other hand, the level of education, urbanization, modernization and economic development has been so low to embrace the complex family planning mechanism in controlling fertility rate.

In addition, the rural nature of the Nigerian setting that is predominantly agriculture, their polygamous practices favour high fertility rate as children, and wives are looked upon as economic assets. In fact, most Nigerian parents hardly consider their economic or financial means as determinants of their family size. To them God gives and will always, provide for their upkeep. Hence, most Nigerian families still favour large families as a blessing from God, while marriages are easily dissolved due to lack of child bearing. For instance, the meaning of native names such as ‘*Oghenevwaire*’ which literarily means God brought them or “*Emoefe*” meaning children are wealth ; “Emonefe”- children exceed wealth; clearly attests to the value which most Nigerians accord children.

Different authorities have seen the relationship between education and fertility as a complex one. While some authorities argue that education reduces fertility, others believe that expansion of education particularly in a developing country may actually result in increased fertility. For example, Cochrane (1979) while analyzing the relationship for the World Bank suggested that a negative correlation between education and fertility is more often observed for the education of females than males. The study showed that the relationship is far from uniform. He argued that in some countries, education appears to be either unrelated to fertility or actually positively related. However, Cochrane’s review of studies at the individual levels suggested that literacy is largely, associated with reduced fertility but that various patterns exist. The relationship between education and fertility is more likely to be inverse in urban than in rural areas. Secondly, that in countries with high illiteracy rates, individuals with some education may appear to have higher fertility than those with no education, whereas in countries with low illiteracy rates, individuals tend to have lower fertility.

The report of the World Population Bureau (2001) indicated that researches over the last twenty years have shown that women with more education usually make a later transition to adulthood, and have smaller, healthier families, have their first sexual experience later. The UN (1997) also indicated that in many less developed countries, women with no schooling have about twice as many children as do women with ten or more years of schooling.

In the same vein, Psacharopoulos and Woodhall (1997) Tinker, Finn and Epp (2000) in their studies have shown that women in the poorest households and with lower education and lower income have the highest fertility and often experience early entry into motherhood; frequent pregnancies and a continued cycle of illiteracy and poverty. Hence, the World Bank (1995) and the PRB (2001) regarded women's education as the single most influential investment in the developing world. To them, educating women is an important end in itself and is a long-term strategy for fostering economic growth and the promotion of smaller families.

In the light of the above, this study becomes imperative because over the years some adult members of the Nigerian society have concerned themselves with procreation and "mass production" of babies without much concern for the moral, social, economic and educational well being of the babies. This has resulted to unprecedented cases of teenage pregnancy, child abandonment, and child labour and child abuse. Many adult and "premature" parents have lost control and care for their children resulting to increasing crime rate, school dropouts, militant youth and militant students' unionism, increased illiteracy among youths and youth unemployment. It also explains partially why successive governments in Nigeria have not been able to bear the financial burden of providing universal basic education in spite of the Addis-Ababa declaration of 1963 and the human rights declaration of education as a basic human right of all. This study therefore empirically examines the following questions.

1. *What is the average fertility of the Southern Nigerian family?*
2. *Does the fertility rate of families differ significantly among the educational levels attained?*
3. *Is there any substantiated difference in fertility rate between urban and rural families in Southern Nigeria?*
4. *What factors influence the fertility rate of families in Southern Nigeria?*

Methodology

Sample and sampling procedures

The married couples in the eighteen states south of the River Niger generally called the Southern Nigeria formed the subjects of the study. The sampling was carried out in stages. The simple random sampling technique was first applied to sample eleven states and six local government areas from each of the states. The sampled 66 local government areas were stratified into urban and rural settings. To obtain the actual subjects of study, the families within the urban and rural settings were further stratified according to their level of educational attainment. From each of the strata, the researcher randomly selected 6,973 families who formed the subjects of the study. This is shown in Table 1. However, the researcher ensured that only families that have married for at least fifteen years qualified for sampling. This was to ensure that most women sampled were not likely to bear children again.

TABLE 1
DISTRIBUTION OF SUBJECTS SAMPLED

| Level of Education | No. Of Families Sampled | | Total |
|--|-------------------------|---------------|--------------|
| | Urban | Rural | |
| 1. No Formal Education (NFE) | 501 | 627 | 1173 (16.8%) |
| 2. First School Leaving Certificate (FSCL) | 1114 | 718 | 1832 (26.3%) |
| 3. Ordinary Level O/L | 1442 | 621 | 2063(29.6%) |
| 4. Tertiary Education | 539 | 366 | 1905(27.32%) |
| Total | 4,596 (65.9%) | 2,377 (34.1%) | 6,973 (100%) |

Source: Computed from the fieldwork.

Instrumentation

The main instrument for the study was a questionnaire titled “Questionnaire on Education and family size (QEAFS). The first part of the instrument sought to elicit responses on state of origin and residence; place of residence; age at marriage; and highest educational qualification. It also identified duration of marriage; number of children owned by the woman; other children of the husband as well as number of wives married.

The second part of the questionnaire identified 15 factors that encourage large families and the respondents were asked to score each factor (1-4) in an ascending order of influence.

The validation of the instrument was attained with the assistance of colleagues in the faculties of education and the social sciences in collaboration with the expert statisticians in the Delta State Ministry of Finance and Economic Planning (Statistics and Research Division)

Data Collection and Analysis

The researcher’s undergraduate and graduate students, particularly those undergoing the “Sandwich”, part time and weekend degree programmes at the Delta State University, administered the research instruments. The students were used as research assistants who administered questionnaires in their various states of residence namely: Anambra, Benue, Delta, Edo, Ekiti, Enugu, and Lagos, Ogun, Ondo, Oyo and River states. The research assistants were adequately trained and were assigned to each strata of the sample.

In analyzing the data, the responses were first coded according to variables of study; level of education; urban and rural respondents. For each category of respondents, the total number of families, total number of children per woman and father were summed up and the average number of children per family was obtained.

Results:

This section presents the results of the research findings. Table 2 shows the records of average births per married woman and man, according to their levels of educational attainment and

areas of residence. The records show that on the average, men have more children than women in all levels of their education, both in the urban and rural settlements. For example, while a woman with no formal, education in the rural area has an average of six children; her male illiterate counterparts have an average of 8.7 children. The Table also reveals that while women marry, on the average, at age 22.7 men generally marry at age 31.5. The records also show that rural men and women often marry earlier than their urban peers do.

TABLE 2
AVERAGE NUMBER OF CHILDREN PER MOTHER AND FATHER

| Level of Educ. | Average no. of .children per woman | | | Woman's age at marriage | | | Ave. No. Of children per man | | | Man's age at marriage | | | Average no. of wives per husband | | |
|----------------|------------------------------------|-----|-----|-------------------------|------|------|------------------------------|-----|-----|-----------------------|------|------|----------------------------------|-----|-----|
| | UB | RU | X | UB | RU | X | UB | RU | X | UB | RU | X | UB | RU | X |
| NFE | 4.8 | 6.0 | 5.4 | 22.2 | 20.3 | 21.3 | 7.0 | 8.7 | 7.9 | 31.8 | 30.0 | 30.5 | 1.6 | 1.7 | 1.7 |
| FLSC | 4.6 | 5.0 | 4.8 | 22.9 | 22.3 | 22.6 | 6.1 | 7.0 | 6.6 | 30.4 | 32.3 | 31.4 | 1.3 | 1.3 | 1.3 |
| O/L | 4.2 | 4.4 | 4.3 | 22.7 | 22.3 | 22.5 | 5.2 | 5.8 | 5.5 | 30 | 32 | 31.0 | 1.2 | 1.2 | 1.2 |
| H/E | 3.5 | 3.9 | 3.7 | 25.6 | 23.2 | 24.4 | 4.3 | 5.5 | 4.9 | 33.4 | 32.6 | 33.0 | 1.2 | 1.3 | 1.3 |
| X | 4.3 | 4.8 | 4.6 | 23.4 | 22.0 | 22.7 | 5.7 | 6.8 | 6.3 | 31.4 | 31.7 | 31.5 | 1.3 | 1.4 | 1.4 |

Source: Computed from field data.

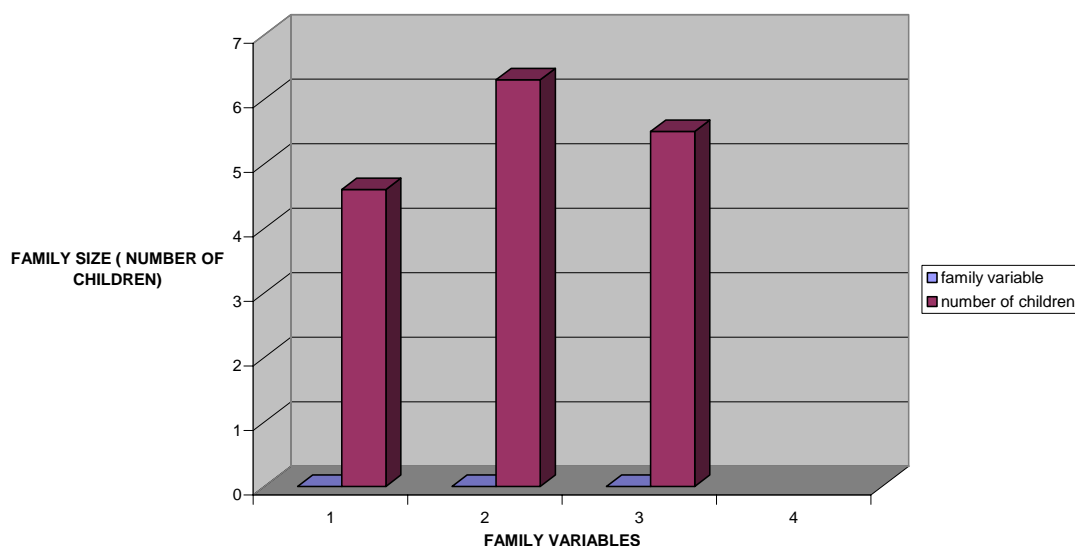
Research Question 1

What is the average fertility rate of the Southern Nigerian family?

The information obtained from Table 2 helped to provide answer to this research question. The average fertility rate was defined to imply the average size of the family or the average number of children per household.

FIGURE 1: Average Family Size in Southern Nigeria

FIGURE 1 : AVERAGE FAMILY SIZE IN SOUTHERN NIGERIA



As shown in Figure 1, the average fertility rate of a married woman in Southern Nigeria is 4.6 children while the fertility rate of a man is 6.3 children. On the average, there are 5.5 children per family in Southern Nigeria.

Research Question 2

Does the fertility rate of families differ significantly among the educational levels attained?

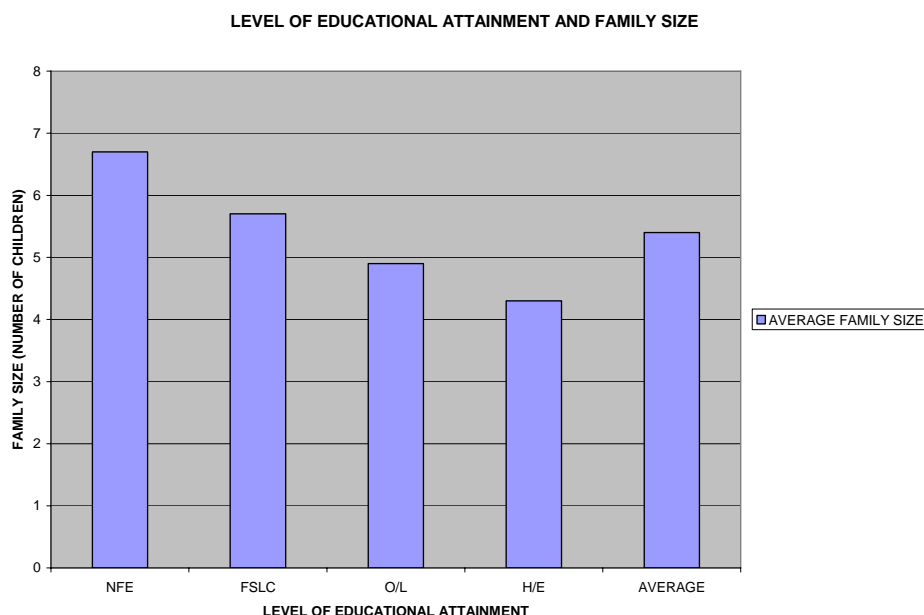
**TABLE 3
FERTILITY RATES OF FAMILIES ACCORDING TO EDUCATION AND PLACE OF RESIDENCE.**

| LEVEL OF EDUCATION | AVERAGE NO. OF CHILDREN | | | AVERAGE NO. OF CHILDREN | | | AVERAGE OF URBAN & RURAL |
|--------------------|-------------------------|-----------|-----|-------------------------|-----------|-----|--------------------------|
| | URBAN WOMAN | URBAN MAN | X | RURAL WOMAN | RURAL MAN | X | |
| NFE | 4.8 | 7.0 | 5.9 | 6.0 | 8.7 | 7.4 | 6.7 |
| FSLC | 4.6 | 6.1 | 5.4 | 5.0 | 7.0 | 6.0 | 5.7 |
| O/L | 4.2 | 5.2 | 4.7 | 4.4 | 5.8 | 5.1 | 4.9 |
| HIGHER EDUCATION | 3.5 | 4.3 | 3.9 | 3.9 | 5.5 | 4.7 | 4.3 |
| X | 4.3 | 5.7 | 5.0 | 4.8 | 6.8 | 5.8 | 5.4 |

Source: Computed from field data.

As shown in Table 3, and figure 11, fertility rates in Southern Nigeria tend to decline with level of education attained. Families without any formal education had the highest average fertility rate (6.7); while those with highest level of educational attainment had the lowest average fertility rate (4.3).

Figure 11: Fertility Rate of Families



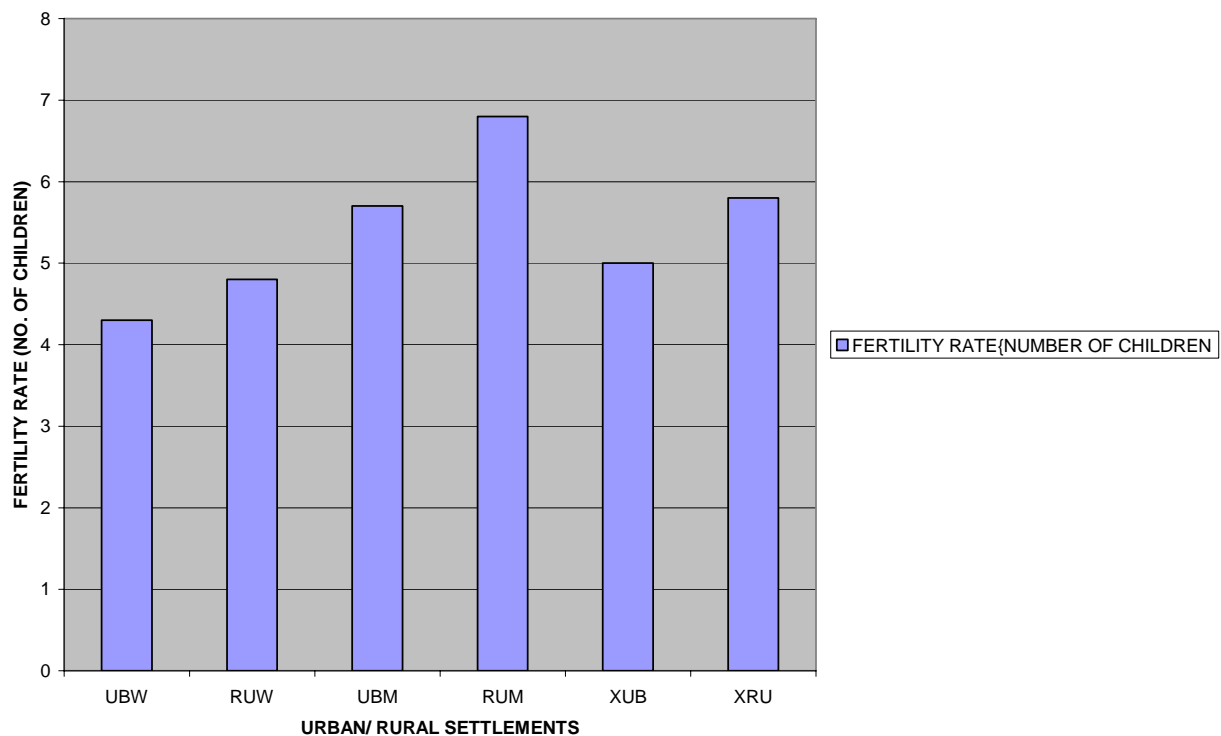
KEY

| | |
|-------------|--|
| NFE | No formal Education |
| FSLC | First school leaving certificate, or 6 years formal education |
| O/L | Ordinary level or minimum of 12 years formal education |
| H/E | Recipients of higher education or minimum of 15 years of formal education? |
| X | Mean of all groups |

Research Question 3: Is there any substantial difference in fertility rate between urban and rural families in Southern Nigeria?

Figure 111: Fertility Rate of Families According to Geographical Distribution.

FERTILITY RATE OF FAMILIES ACCORDING TO GEOGRAPHICAL DISTRIBUTION.



KEY

| | |
|-----|---------------------------------------|
| UBW | Average fertility rate of urban woman |
| RUW | Average fertility rate of rural woman |
| UBM | Average fertility rate of urban man |
| RUM | Average fertility rate of rural man |
| XUB | Average urban family size |
| XRU | Average rural family size |

As revealed in Table 3 and figure iii, fertility rates in Southern Nigeria tend to decline with urbanization. While the average fertility rate for an urban woman was found to be 4.3 children, her rural counterpart's fertility rate was found to be 4.8. The fertility rate for an urban man and rural man stood at 5.7 and 6.8 children respectively. Moreover, the average family size for an urban family was 5.0 children as against 5.8 for the average rural family.

Research Question 4

What factors influence the fertility rate of families in Southern Nigeria?

The Z-score statistics was used to analyze the 15 items, which the respondents responded to as likely factors capable of increasing fertility rate amongst Southern Nigerian families.

TABLE 4: Z-Score Ratings of Factors influencing Family Size

| FACTORS | | Levels of Education | | | | |
|----------------|--|----------------------------|-------|-------|-------|--------|
| S/No | Needs for a particular sex of children | NFE | FSLC | O/L | H/E | TOTAL |
| 1 | Need for a particular sex of children | 2.48 | 2.67 | 3.15 | 2.69 | 10.99* |
| 2 | The influence of couples' parents | -0.07 | -0.69 | -0.95 | -0.43 | -2.14 |
| 3 | Non-legalization of abortion | -3.20 | -3.66 | -3.31 | -3.66 | -13.83 |
| 4 | Lack of willingness to embrace family planning | -0.41 | 0.64 | 1.09 | 0.87 | 3.01* |
| 5 | My religion does not encourage family planning | -1.63 | -1.78 | -2.08 | -2.29 | -7.78 |
| 6 | Love for children | 4.51 | 3.41 | 2.65 | 2.58 | 13.15* |
| 7 | Having only female children | -1.08 | -0.12 | 0.33 | 0.74 | -0.13 |
| 8 | Having only male children | -2.40 | -1.91 | -1.65 | -1.26 | -7.22 |
| 9 | The large family aids farming/ economic activities | 1.01 | -1.10 | -2.13 | -2.08 | -4.30 |
| 10 | Polygamous nature of most Nigerians | 2.69 | 3.06 | 3.02 | 3.13 | 11.90* |
| 11 | Ignorance of the implication of large family | 0.43 | 2.02 | 2.11 | 1.95 | 6.51* |
| 12 | Influence of extended family member | -0.85 | -1.19 | -1.16 | -0.74 | -3.94 |
| 13 | Lack of proper spacing of children | 0.15 | 0.47 | 0.48 | 0.74 | 1.84 |
| 14 | No government policy on number of children a couple can have | -1.15 | -1.00 | -1.15 | -0.91 | -4.21 |
| 15 | Being the only child | -1.41 | -0.85 | -0.43 | -1.14 | -3.83 |

Level of significance >1.96 at 0.05 level

* Significant factors

As indicated in Table 4, those factors starred (*) were found to be significant factors responsible for increased size of families in Southern Nigeria. The following factors were identified: *Love for children (13.15)*; *Polygamous nature of most Nigerians (11.90)*; *Need for a particular sex of children (10.99)*; *Ignorance of the implications of a large family (6.15)* and *lack of willingness to embrace family planning (3.01)*

Discussion Of Results

This study examined the relationship between educational attainment of couples and their propensity to have children. It sought to ascertain whether the level of education of women and

men; and their place of residence have relationship with their fertility rates. It also sought to find out the factors that influence their family size.

The evidence overwhelmingly supports the works of Cochrane (1979); Psacharpoulos and Woodhall (1997); UN (1997); Tinker; Finn and Epp (2000); and the World population Reference Bureau (2001) to the effect that education of women has inverse relationship with their fertility rate. The average fertility rate of a rural woman without any formal education was found to be 6.0 children; her counterpart with higher education (at least 15 years education) has 3.9 children. The finding can also be true to men. For example, the average fertility rate of a rural man with no formal education was 8.7 children while his rural counterpart with at least 15 years of schooling was 5.5 children. The finding thus supports the significant role which education plays in fertility decline. Indeed, with formal education, even the rural family can possibly reduce her family size by half. Again, as the educated man continues to live in the rural environment, his tastes and values begin to change to reflect the rural standards, more so, when they are too few to influence the rural people.

Evidence from the study also supports the works of Bjork (1971) and the Bucharest (1974) conference that urbanization; modernization and economic development can be forms of contraceptives. The findings revealed that at all levels of the educational systems, fertility rate remained more inversely related to education in urban than in rural settlements. For example, while the average fertility rate for the urban family with no formal education remained at 5.9, the average for the rural family was 7.4 children. In addition, the urban family with no less than 15 years of education had a fertility rate of 3.9 children as against the average of 4.7 children for her rural counterpart. Illiteracy, underdevelopment and rurality are thus the bane of population growth in Southern Nigeria. This is because illiteracy and rurality tend to make the people more religiously and culturally inclined and receptive to all forms of family planning.

Every family tends to regard child bearing as the dominant and fundamental purpose of marriage. This transcends into the love of children, which was reported as most crucial in influencing family size. Also, polygamous nature of most Nigerians was identified a second most influential factor (11.90). Most men in Southern Nigeria easily go polygamous, “disguised polygamy” or even divorce their wives either for lack of child bearing or for bearing only a sex of children particularly female. More often than not, women who have either few children or none tend to encourage their husbands to either marry another wife or have children from women outside. Even parents and extended family members do not relent in such callings.

Ignorance of the implication of a large family (6.51) and lack of willingness to embrace family planning (3.01) were also factors found to influence fertility rate among Southern Nigerian families. Indeed ignorance makes the illiterate and rural families to regard many children as “economic assets” to aid them in their farming and other economic endeavors. This results to child-abuse, neglect and a vicious circle of poverty and illiteracy as this often result to denial of basic education for the children.

The findings of this study have serious implications for the planning of education in Nigeria. The study suggests that future generations of Nigerians should strive to embrace higher education. In particular, governments should endeavour to provide and enforce a compulsory 12-year education policy for the rural children and urban poor. This is because, an increased literacy rate particularly for the rural and urban poor will have its desired implications on future population growth rate as current generation of children will attain educational levels higher than their parents, and so will their fertility rate be lower. In addition, rapid socio-economic development programmes to transform and urbanize the rural communities should be

vigorously pursued as did in Taiwan after World War II, which has substantially reduced their fertility. (Zimmer et al 2001)

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Toward Indigenization of Secondary School Curriculum in Ghana

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Abstract: The primary purpose of this paper is to suggest two curricula models in Ghanaian studies (GS 1 and GS 2) that can be instituted in order to address the gross insufficiencies of Ghanaian content in secondary school curriculum. Using reconstructionist theoretical perspective, the paper discusses critically the rationales for the two curricula models; in particular, the eclectic preservation of Ghanaian cultures through transmission to youth people, and the creation of a harmonious social and political environment in which all Ghanaian cultures would be respected and accorded due national recognition and legitimacy. The paper draws valuable lessons from the Achimota's failed experiment to create integrated curricula in which students were provided the opportunity to connect with their cultures as well as learn European culture. Though the paper does not specify the language of instruction for the suggested curricula models, it discusses this issue and the probable criticisms that would be leveled against it. Despite these criticisms, the paper expresses the optimism that the models could make positive contribution toward indigenization of schooling and education in Ghana.

Introduction

Does secondary school curriculum reflect Ghanaian culture? Certainly, any Ghanaian familiar with our secondary school curricula knows for a fact that they reflect only a few aspects of our culture. For example, students learn about the great empires in West Africa, including Mali and Ghana empires. In addition, students learn Ghanaian history, particularly the British Colonialism, Asante's wars against the British and other ethnic groups. In government studies, students learn predominantly the modes of British colonial administration with very little references made to pre-colonial administrations. Nonetheless, students do not learn the rich histories of other ethnic or tribal groups in Ghana, who, though did not participate in any wars against either the Asantes or British but, have made enormously significant contributions to Ghanaian cultural mosaic. Further, the orthodox presentation of Asantes in Ghanaian history as warriors tends to convey to students a stereotypical notion of a people who thrived on conquests, violence, destruction, and bloodshed. The rich Asante culture, including its social organization is inadvertently trivialized and overlooked. Furthermore, there is no where in Ghanaian schools, elementary or secondary, where students are provided with opportunities to learn Ghanaian cultures, the various ethnic groups, their histories, cosmologies, worldviews, technology, and social organization. Though some teachers have attempted to incorporate the study of Ghanaian cultures and traditions in English novel studies, the result is that students are not only invariably presented with grossly inadequate Ghanaian content but also Ghanaian culture takes a subordinate role in contradistinction to the dominant British culture for which the instruction was designed. Some teachers also use locally relevant examples, materials, and knowledge in teaching specific concepts to students, regardless of the subject matter. Nevertheless, such culturally-relevant teachers are very few in Ghana's secondary school system.

Intent, Assumptions And Thoretical Perspective

The primary intent of this paper is to suggest how the inadequate Ghanaian content in school curriculum can be addressed. The first section offers rationales for changing secondary curriculum in Ghana. The second part is a specification of two models of Ghanaian studies for

both junior and senior secondary schools. The final part, the conclusion, deals with likely criticisms of this paper. Related to the purpose of this paper is the assumption that the curriculum advertises more or less the mission of the school by defining what ought to be taught and learned. As well, I regard curriculum reform as one of the strategic instruments for improving student learning and influencing teacher's decisions about classroom practices. These assumptions are informed by two fundamental professional beliefs. First, schooling and education are processes through which a society passes its culture to its offspring and also prepare its children for future adult roles. Given this belief, school curricula must reflect the culture of the society in which the school is located. Unfortunately, in most former European colonies in Africa, the local ruling class, many of whom were educated in either the colonial schools or Euro-American countries, pattern school curricula in the colonies after that of the colonial masters. This practice is justified on the grounds that it becomes easier for students educated in the colony's schools to transport their education to different parts of the world (Dei 2003). This may help to explain why a vast majority of educated young Ghanaians have no substantive understanding of Ghanaian cultures, and for that matter, they tend to denigrate Ghanaian cultures or disassociate themselves from those cultures. However, the principles of learning are essentially the same. When students focus their minds on Ghanaian society, its problems, and challenges, they could conveniently "transport" their skills and knowledge of social analysis, problem-posing, and problem-solving skills with them to any parts of the world. Second, schooling and education is a powerful instrument of socialization that ranks only next to the family and the church. As a socialization instrument and cultural reproduction, schooling and education can stifle one's ambition or talents, lower one's self-esteem and shape one's consciousness for permanent domination and psychologically condition one to genuflect the cultural achievements of Euro-America while belittling their own.

Educational reconstructionism is the theoretical perspective that guides this paper. The history of reconstructionism can be traced to the United States educator Theodore Brameld, who after the World War 11 thought that school could be at the forefront to bring about changes needed in social justice and democracy to the world (Stanley, 1992). "The philosophy of reconstructionism contains two major premises ⊕(1) society is in need of constant reconstruction or change, (2) such social change involves both reconstruction of education and the use of education in reconstructing society "(Ozmon and Craver, 1999, p171). This suggests a reciprocal relationship between education and society. According to Woolman (2001) educational reconstructionism is a theorization of the role of school as an agent of national development or social change. "The reconstructionist approach to education is experimental: it first tries to foresee future social directions by analysis of past and present trends. It defines what type of social order need to preserve fundamental human ideals in the context of changing world. The objective is adaptation to modern life without disruption of traditional culture and community" (Woolman 2001,p.40). The approach of reconstructionists to education is experimental because of the complex task of designing an education system that serves the interest of a specific country rather than that of their former colonial masters or a dominant group. The task of educational reconstruction is also complicated due to the extreme ethnic or tribal diversity in some countries that have attempted to forge a new educational system. Moreover, balancing the traditional with the modern is not an easy undertaking for any educator. One may ask this question: can a cat and a mouse co-exist without the cat eating up the mouse? This is a metaphor to describe what is likely to occur if the balancing act is not creatively done and constantly monitored. Finally, reconstructionism is a political process, in that it requires the full cooperation of all sectors of society, including the educated elite. Indeed, the reconstructionist must politically overcome or win over dissention and opposition from internal classes who for decades have been feeding ravenously on the status-quo for their own prestige, power, and material benefit.

The reconstructionist uses as its analytical frames decolonization, postcolonialism, transmission of culture, curriculum development, cultural diversity and preservation, and indigenous/native knowledge. For this reason, the reconstructionist's perspective has as its primary focus a transformative, emancipatory, and restorative agenda rather than mere rhetoric and maintenance of the status-quo. The reason is that reconstructionists do not simply analyze colonial and post-colonial systems of schooling and education; rather, they seek concrete action or plan to change it in order to preserve national culture, empower indigenous people, dismantle structures of internal oppression, and speed up national development. Having said that, it is appropriate for me to conclude that educational reconstructionism follows the traditions of critical theory that places premium on people's lived experiences, the structure of power, methods of oppression, social conditions, and infusion of theory and action (Littlejohn, 1992). To conclude this section, reconstructionist educators should focus on a curriculum and teacher education that will engender social reform in society as the aim of education. In fact, reconstructionists do not see any difference between knowledge and action as Ozman and Craver (1995) rightly put it, "Knowledge should lead to action, and action should clarify, modify, and increase knowledge" (p.186).

Rationales For Curriculum Change

The inadequate Ghanaian content in school curricula must be fully addressed in any reform of Ghanaian elementary and secondary school system in order to make our education system relevant to our culture. The uncertainty of using curriculum to reform school system has been noted by many writers. Werner (1991) argues that the use of curriculum as an instrument for educational reform is shrouded in uncertainty in that curriculum policy implementation is shaped and interpreted at the school and classroom levels by several actors each with competing interests and values. Despite the uncertainties implementation, curriculum change in Ghanaian secondary schools is more likely to produce positive benefits for the people and advancement of the nation, especially one that incorporates the cultures of the people.

I suggest that a study of Ghanaian culture should be made part of the curricula for both JSS and SSS. This course of study would more likely address the gross deficiencies of local content in school curricula and help students to focus their attention and effort on local or national problems confronting us. In tracing the trajectory of science education in Ghana, Anamuah-Mensah (1998) marks the period from 1987 as a period of socio-cultural consciousness because the government recognized the paramount need to ensure that science education reflects the cultural practices of the people of Ghana. That is, the government recognizes that Ghanaian cultural practices should be the logical entry point to learn the scientific culture. However, one may lament why this cultural consciousness did not spill into other areas, in particular social science subjects taught in secondary schools.

Moreover, a recent Ghana Education Service's document asserts: The president's Education Review Committee is of the view that "the philosophy underlying the education system in Ghana should be the creation of well-balanced (intellectually, spiritually, emotionally, and physically) individuals with the requisite knowledge, skills, values and aptitudes for self-actualization and for the socio-economic and political transformation of the nation". (The Basic Education Division, Ghana Education Service, 2004)

This quote calls for an education system that produces a well- balanced individual. This is not possible where the culture of the individual student is negated in the school system and the individual is compelled to assume the cultural identity of Euro-American in order to function efficiently or effectively at the cognitive and behavioural levels. It should be noted that the

culture of the individual student is an inseparable part of his/her emotional, spiritual, and intellectual selfhood. To strip students of their culture is similar to having turned them upside down, so to speak. An upside-down student is certainly not a well-balanced individual. Sadly enough, a vast majority of secondary students were turned upside down during their secondary schooling with the result that they internalized a bleak conception of Africans, their communities, society, histories, and cultures. More specifically, most of these students internalized the dominant Eurocentric ideology that Black Africans are incapable of creating an industrial culture or establishing a modern economy.

A course of study on Ghanaian society would also give students the opportunity to learn all Ghanaian cultures and make them true citizens of multicultural Ghana. From my observations, tribalism often occurs when the histories, cultures and achievements of minority tribes/ethnic groups are unintentionally excluded from the school curriculum while those of the dominant group are recognized and legitimized. Moreover, Ghanaian studies are an effective site to integrate research skills so that students would undertake research projects on all aspects of Ghanaian culture. Yartey (2004) in his poignant article on research argues that research skills and knowledge are crucial to social innovation and economic development in Ghana. He faults the Ghanaian school system for failing to develop research skills in students. In Ghanaian studies, for example, students could undertake a research project to investigate the stages of gari production and which of the stages can be improved or mechanized. Students could also conduct a research into the history of kente cloth or smock making: the origin of the technology, the social importance of kente or smock, problems of the industry, and how the problems could be solved. Indeed, research assignments on Ghanaian culture are numerous and they would assist students to think critically about how things are done in the culture and ways to improve upon them. This would provide the catalyst to improve our cultures and bring about some of the progress we desperately need as a nation-state. In other words, young people would be encouraged to think critically, creatively and logically about their society and how and where improvements are needed.

Further, a course of study on Ghanaian society is part of the decolonizing process, a project that is concerned with transformation of our national and local institutions in order to reflect our beliefs, values, norms, traditions, and worldview rather than having our culture relegated to the periphery of our society. Furthermore, a course of study of that nature is designed to eliminate the dichotomy between “school knowledge” and “home knowledge”. School knowledge refers to the skills, values, and knowledge which are taught and learned in conventional schools. By contrast, home knowledge is those taught in families and in communities. Usually school knowledge is preferred because of its utility as a tool for social mobility in the modern sector of our society. The dichotomy of “home knowledge” and “school knowledge” distorts students’ consciousness of their own cultures by psychologically predisposing them to reject their cultures and accept those of Euro-America. In fact, a course of study on Ghanaian society would make it possible for students to bring their cultures comfortably into the school classrooms and assume their cultural identity without fear or intimidation.

It is suggested that a course of study in Ghanaian society must be taken by both junior and senior secondary students. This is a radical departure from the prevailing pattern of curriculum programming in Africa (Mazonde 2000). In Ghana, like most African countries, elementary school curriculum tends to be a *mélange* of indigenous knowledge and that of European. Nevertheless, as students move to the secondary school, college, and university levels the curricula are increasingly a replica of those found in Euro-American education system (Okrah, 2003).

A course of study in Ghanaian society can be divided into two parts, with the first part taken by junior secondary students and the last part by senior secondary students. It should be emphasized that Ghanaian studies must be distinguished from cultural studies offered at the junior and senior secondary level that consists of religion, music (drumming and dancing), drama, arts, and crafts. On the contrary, Ghanaian studies, as detailed below, go beyond these cultural fragments—drama, religion, and crafts. It takes the whole Ghanaian society as its object of study, encouraging Ghanaian youth to focus their minds and energies on sociological problems in Ghanaian society and to apply their analytical and problem-solving skills to Ghana's development. In short, Ghanaian studies can be aptly referred to as "Ghanalogy".

Ghanaian Studies 1

This should be a mandatory subject for students in JSS 3 and form part of the subjects in their school final BECE examination. Its intent is to make students culturally literate in basic facets of Ghanaian society and to instill in them research and other problem-solving skills. Ghanaian Studies 1 (GS1) introduces students into basic studies of Ghanaian society such as its ethnic composition, traditional social organization, worldviews and ontology using direct instruction, individual and group work. It also employs field observation, and community resources in the form of knowledgeable members of the school surrounding community to teach valuable skills to students. The detail content includes but not limited to:

- Introduction to ethnic groups in Ghana: their language, geographic location, traditional occupations, technology;
- Social organization of each ethnic or tribal group, similarities and differences in social organization; political organization: chieftaincy and eldership, enskinment/enstoolment, the responsibilities of a chief/chief elder/queen; decision-making process;
- The concept of family in each ethnic/tribal group, the role and responsibilities of both father and mother, pattern of traditional inheritance, parenting practices, system of baby naming, initiations, and ceremonies;
- Traditional religions in Ghana, their system of beliefs, ceremonies, cosmology;
- Traditional foods, types, their style of preparation, nutrition, their social significance, etc.
- Practices of punishment in traditional societies: forms, rationales, and efficacy;
- Ghanaian/African beauty, hairstyles, hair tie/bands, traditional costume/sandals, styles of dressing for both men and women in different ethnic/tribal groups;
- Puberty practices and their social significance of each ethnic/tribal group.
- Traditional music, dances, and musical instruments.
- Ghanaian/African beauty: costume, native sandals, dressing and hair-styles, etc.
- The concept of modernization; what should be modernized, what should be maintained; problems and challenges of modernization in Ghana.

Ghanaian Studies 2

This is a logical extension of Ghanaian studies 1, and it introduces SSS students to an advanced study of all aspects of Ghanaian society. Ghanaian studies 2 (GS2) includes an in-depth study of the social history of every ethnic or tribal group in Ghana, tribalism, traditional models of leadership, the nature of multiculturalism, marriage practices, traditional conceptions of male and female, gender roles, and some aspects of modern Ghana. Its pedagogy includes research or investigation, group or collaborative work, problem-solving, and inculcation of values such as respect, tolerance, honesty, responsibility and accountability. To give this study an aura of

legitimacy so that students would not regard it as a Mickey-mouse subject, students must be required to pass it in the SSCE examination. The detail content includes the following:

- The nature of research; types and purposes; doing social research in Ghanaian society; framing the research question or purpose;
- The social history of each ethnic/tribal group in Ghana;
- The nature of culture, importance of culture, and factors that change culture;
- The nature and practices of tribalism; causes of tribalism, personal, local, or national solutions of tribalism;
- Multicultural nature of Ghanaian society, the benefits and problems of multiculturalism; ensuring equity in a multicultural society;
- Traditional decision-making practices versus modern decision-making practices; the issues of consultation, consensus, negotiation, and representation.
- Marriage and divorce practices and procedures in each ethnic/tribal group; marriage; social significance of marriage in each ethnic/tribal group;
- Traditional festivals, ceremonies and their significance;
- Ghanaian heroes/heroines, leaders, traditional qualifications for leadership, roles, and responsibilities;
- Traditional gender roles in Ghanaian society; changing gender roles; factors causing changing gender roles;
- Traditional communication practices and strategies, nuances, technology;
- Systems of traditional inheritance: rationales, problems, and solutions; the new inheritance laws;
- Traditional medicine--- herbs, philosophy of traditional medicine, healing, potency, problems, and prospects;
- Basic concept of national, local and community development; development planning and plans since political independence from Britain; causes and solutions of underdevelopment.
- Contemporary Ghanaian issues--- poverty, health care, transportation, housing, cost of living, youth unemployment, human rights, democracy, technology, etc.

Achimota Secondary School's Experiment

Achimota Secondary School was established by the British colonial government in the Gold Coast (now Ghana) in 1920 as part of the colonial government's plan to provide education for the colony. Coe (2002) researched into the history of Achimota Secondary School and its efforts to incorporate the teaching of Ghanaian culture into the school's curriculum in order to produce bicultural students--- students who were literate in their own culture and that of the colonial master. Her research on Achimota Secondary School is instructive here, as we set the gaze on reconstructing a new education system that takes into consideration Ghanaian cultures and national developmental needs. According to Coe (2002) drumming, dancing, and woodcarving were made part of the school curriculum at Achimota Secondary School. However, Coe (2002) reports that the performing arts were part of the school's extracurricular activities rather than part of the core curricula and students were merely expected to appreciate them instead of being knowledgeable of these cultural forms. Owing to the fact that the majority of the teaching staff were Europeans without personal or scholarly competence in Ghanaian culture, outsiders were brought in to teach these Ghanaian cultures to the students. Coe (2002) concludes that this experiment was a total flop due to its contradiction with the tenets of British colonialism. The main lesson to learn in Coe's (2002) research on Achimota Secondary School is that the incorporation of Ghanaian studies into secondary schools' curricula can not take a peripheral status. It must be given all the legitimacy as other subjects in the school curricula in order for it

to have an impact on student learning and for the students to accord it the appropriate respectability.

Conclusion

Critics of this paper may write off my proposal as ineffective or contradictory solution toward indigenization of our education system since English would still be used as a medium of instruction. For example, critics may argue that students can not be reasonably expected to learn their cultures through the medium of English, because many cultural artifacts, proverbs and symbols cannot be exactly translated into English. Consequently, local languages are critical in the transmission and expression of cultural norms and values (Dei 2002). The critics may further argue that using English to learn Ghanaian society is counterproductive, in the sense that students would complete the subject without developing an appreciation for or pride in their native language. This is similar to Armstrong's argument (quoted in Hameso, 1987):

If the young people come to despise their father's language, the chances are that at the same time they will reject their father's wisdom. The emotional importance of a language lies in the fact that it contains the choices of one's mother, father, brothers and sisters, and one's dearest friend (p.6).

However, my proposed Ghanaian studies are an advanced step toward the ultimate indigenization of our secondary school curricula. Once the principal focal point of this group of students is Ghanaian society and not Euro-American society, eventually the need for a non-English language as national language would dawn on them. Indeed, the issue of selecting one of our local languages to serve as national language is so sensitive in Ghana. Some people have suggested that to avoid charges of tribalism we need a neutral local language as national language. Yet others have suggested that English should be maintained as national language, while at the local level the dominant language should be used for instruction. This school of thought still values English language as a mediator for both international and inter-ethnic communication, but this approach tends to perpetuate colonialism. Perhaps a creative synthesis of our local languages into one unified language is a solution to this problem. However, I must acknowledge, without any fear of contradictions, that a majority limitation of this paper is its failure to address the language of instruction for Ghanaian studies. After all language is an integral part of culture.

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Distance Education In Nigerian Universities

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Introduction

In the world over, most organized formal education take place in appropriate institutions in specific locations. Such educational institutions ranging from pre-primary to universities have classrooms or lecture halls where the teacher stands before a group of pupils or students to impart and guide the acquisition of knowledge and skills. Indeed, it is a traditional system that provides for an interpersonal, face-to-face oral communication between the teacher and the learners for the purpose of exploring and sharing knowledge and experiences. This traditional approach to formal education has remained the main viable strategy for the production of educated manpower in Nigeria up-till the mid 1980's.

The report of the Ashby Commission (1960) popularized education as an investment in human capital, and hence became adopted as the panacea for all private and social ills and problems that plague the Nigerian society. This realization has necessitated increased private demand for education with consequences on need for teachers and other related resources. The institutionalized education tradition of face-to-face contact between teachers and learners soon became over expanded without due regard for quantity and quality of resources available for the effective and efficient realization of the goals of education. Classrooms, teachers and lecturers and all necessary facilities remained in short supply. Indeed, the quantity and quality of resources available for the effective and efficient realization of the goals education remained in acute shortage, particularly, since the dawn of the last decade of the 20th century (Nwadiani, 1993; Ukoli, 1996; Utulu, 2001; Nwadiani and Akpotu, 2002.)

The inability of the institutionalized traditional approach of formal education to cope with the demands informed the emergence of distance education in Nigeria. This paper therefore focuses on the concept of distance education, the types, emergence and popularization of distance as well as the characteristics, problems, abuse, prospects of, and strategies for improving the management of distance education in Nigeria.

The Concept of Distance Education

Since the introduction of distance teaching at the University of Queensland, Australia far back in 1903, different countries and universities have attempted to define the concept of distance education according to their needs and socio-economic peculiarities. Wakatama (1983); Davey, (1999); Sherritt (1999); defined distance education as a systematically organized form of self study in which student counseling, the presentation of learning materials and the securing and supervising of students' success is carried out by a team of teachers. This implies that distance education requires much of self-study on the part of the learner.

According to Jarvis (1973), distance teaching is a method of imparting knowledge, skills and attitudes which is rationalized by the application of division of labour, and organizational principles as well as by the extensive use of technical media. In the same vein, Duguet(1995) saw

distance education as various forms of education at all levels, which are not under the continuous immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless, benefit from the planning, guidance and tuition of a tutorial organization.

Most organized formal education is carried out in classrooms or lecture halls with an individualized teacher in person, guiding a group of learners in the acquisition of knowledge and skills. More often than not, it is oral and group-based. However, the separation of the teacher from his learners by means of media that can cover long distances is the hallmark of distance education. It is identified as a teaching method which involves institutions, distinguished by the separation of the teacher from his learners such that communication is facilitated by a mechanical or electronic medium. It is a teaching in an environment that is consumed at a time or place different from that at which it is produced, and to reach the learner, it must be contained, transported, stored and delivered.

It is in this vein that Keegan (1996) saw distance educational provision as offered in three different forms: conventional provision, teaching at a distance and teaching face-to-face at a distance, each of which complements the other. Teaching at a distance is characterized by the separation of teacher and learner and of the learner from the teaching group with the interpersonal face-to-face communication of conventional education being replaced by a personal mode of communication mediated by technology. Keegan (1996); Farnes,(1997); Davey, (1999); Sherritt (1999); Matthews, 1999; succinctly explained the concept of distance education as:

- The separation of teacher and learner which distinguishes it from face-to-face lecturing;
- The influence of an educational organization which distinguishes it from private study;
- The use of technical media, usually print, to unite teacher and learner and carry the educational content;
- The provision of two-way communication so that the student may benefit from or even initiate dialogue;
- The possibility of occasional meetings for both didactic and socialization purposes; and
- The participation in an industrialized form of education which, if accepted contains the genus of radical separation of distance education from other forms within the educational spectrum.(p.44).

Keegan (1996) further identified two types of distance education programmes- most distance and least distance. The most distance programmes are those with no dialogue and structure. Here the communication methods are the radio, television, and computers or through the cyber space communication and internet training. These include: video and teleconferencing; (Matthews, 1999; Neal, 1999; Davey, 1999). While the least distance education programmes are those with dialogue and structure. These make use of correspondence lecture materials like the "Open University system; organized classes at study centre and various forms of residential summer, weekend, and evening schools (Wakatama, 1984; Sherritt, 1999).

Distance education therefore involves mass education at a distance, occasioned by means of industrialized and technical teaching processes. The main feature is that learning is not under the continuous, immediate supervision of teachers who are present with the learners in the place of study. However, the learners may have access to the teachers or instructors at specified times.

The Emergence of Distance Education in Nigeria

The emergence of modern telecommunication technologies like the voice and audio conference and the internet/ cyber space have further awakened the peoples interests in distance education programmes, the world over. Although distance education has been in existence in the developed countries almost a century ago, it only came into focus in Nigeria in the mid 1970s. Based on the 1960 Ashby Commission's recommendation of "day and evening" courses, correspondence and vacation courses for some newly established universities, the correspondence and open studies institute (COSIT) was established in the University of Lagos in 1976. This marked the beginning of distance education programmes in Nigeria. Today, other institutions like the National Teachers Institute (NTI), the Abia State University, the Delta State University and other universities have made tremendous impact in the lives of many Nigerians who, hitherto, would have had the doors of higher education permanently closed against them.

The Federal government of Nigeria also attempted to consider introducing distance education to complement conventional university education in the early 1980. However, this attempt failed because the government was short lived and energy or power supply and communication technology was grossly underdeveloped. Nevertheless, the National Policy on Education, 1981 and reversed in 1998 clearly stated that at any stage of the educational process after primary education, an individual will be able to choose between continuing his full-time studies, combining work with study, or embarking on full-time employment without excluding the prospect of resuming studies later on.

Since the early 1980, almost all Nigerian universities except the premier university of Ibadan have commenced one form of distance education programme or the other. In particular, sandwich degree programmes in education; weekend undergraduate and post-graduate programmes in Business Administration, Public Administration and in all areas of the social sciences have been established.

TABLE 1 ***ADMISSION OF STUDENTS INTO PART-TIME PROGRAMMES IN SELECTED SOUTHERN NIGERIAN UNIVERSITIES***

| | ABIA STATE UNIVERSITY/ ACADEMIC YEARS | | | | UNIVERSITY OF BENIN/ ACADEMIC YEARS | | | | DELTA STATE UNIVERSITY/ACADEMIC YEARS | | | | UNIVERSITY OF PORT-HARCOURT | | |
|-------------------|---------------------------------------|--------------|---------------|--------------|-------------------------------------|-------------|-------------|-------------|---------------------------------------|-------------|-------------|-------------|-----------------------------|-------------|-------------|
| | 1994/95 | 1995/96 | 1996/97 | 1998/99 | 1994/5 | 1995/96 | 1996/97 | 1998/99 | 1994/95 | 1995/96 | 1996/97 | 1998/99 | 1994/5 | 1995/96 | 1996/97 |
| ENROLLMENT | 201(2.0%) | 366(3.1%) | 401(3.1%) | 526(4.9%) | | 535 (8.1%) | 581(8.4%) | 596(8%) | 169((5.2%) | 178(4.6%) | 281(4.5%) | 314(4.2%) | | | |
| EDUCATION | 3,235(32.4%) | 4,146(34.9%) | 4,233(33.13%) | 5,014(46.9%) | 2694(62%) | 3315(50%) | 2227(32.1%) | 2404(32.1%) | 1403(43.5%) | 1802(46.8%) | 2491(39.8%) | 2886(38.3%) | 2352(51.4%) | 2649(63.2%) | 1296(47.1%) |
| SCIENCE | | | | | 164(3.8%) | 215(3.0%) | 314(4.5%) | 219(2.9%) | 501(15.5%) | 543(14.1%) | 416(6.7%) | 350(4.6%) | 810(17.7%) | 546(13.0%) | 393(14.3%) |
| ENROLLMENT | 6,554(65.6%) | 7386(62.1%) | 8,144(63.7%) | 5,143(48.1%) | 1,487(34.22%) | 2572(38.8%) | 3816(55%) | 4214(56.2%) | 1041(32.3%) | 1138(29.6%) | 2817(45.0%) | 3681(48.8%) | 1415(30.9%) | 994(23.7%) | 1064(38.7%) |
| ENROLLMENT | 9,990(100%) | 11,898(100%) | 12,778(100%) | 10,683(100%) | 4345(100%) | 6637(100%) | 6938(100%) | 7493(100%) | 3224(100%) | 3849(100%) | 6254(100%) | 7543(100%) | 4577(100%) | 4189(100%) | 2753(100%) |

The data on enrolment as shown in Table 1 reveals that the bulk of the students in distance education programmes in the selected universities are based in education and the social science disciplines. This finding is very obvious, particularly for education. Since the National Policy on Education recommends the Nigerian Certificate in Education (NCE) as the minimum teaching qualification in Nigerian schools, most graduates of the NCE programmes simply enroll for sandwich programmes to obtain their degrees while retaining their teaching jobs. Above all, in-service training with pay was no longer granted to serving teachers in Nigeria.

The popularization of Distance Education in Nigeria.

Among other aims of distance education, Keegan (1996) Isman, (1997) opined that the increase in information highway and globalization have encouraged a market-driven concept of distance education. Also, countries like Australia, Norway, Sweden, and Denmark, correspondence or distance education represents a trend of technological break-through (Wakatama, 1984). In the Nigerian context however, economic and socio-political under-tone necessitated its emergence. The following reasons could be advanced for the emergence of distance education in Nigeria.

The Problem of Access to University Education

The idea of a distance education was born out of a sheer desire to correct the gross imbalance in the demand and supply equation for university admissions, which was characterized by quota system rather than pure merit. A country like Turkey also introduced distance education as a response to the problems of demand/ supply deficiency (Isman, 1997)

TABLE 2

EXTENT OF UNSATISFIED DEMAND FOR UNIVERSITY EDUCATION IN NIGERIA(1978-2000)

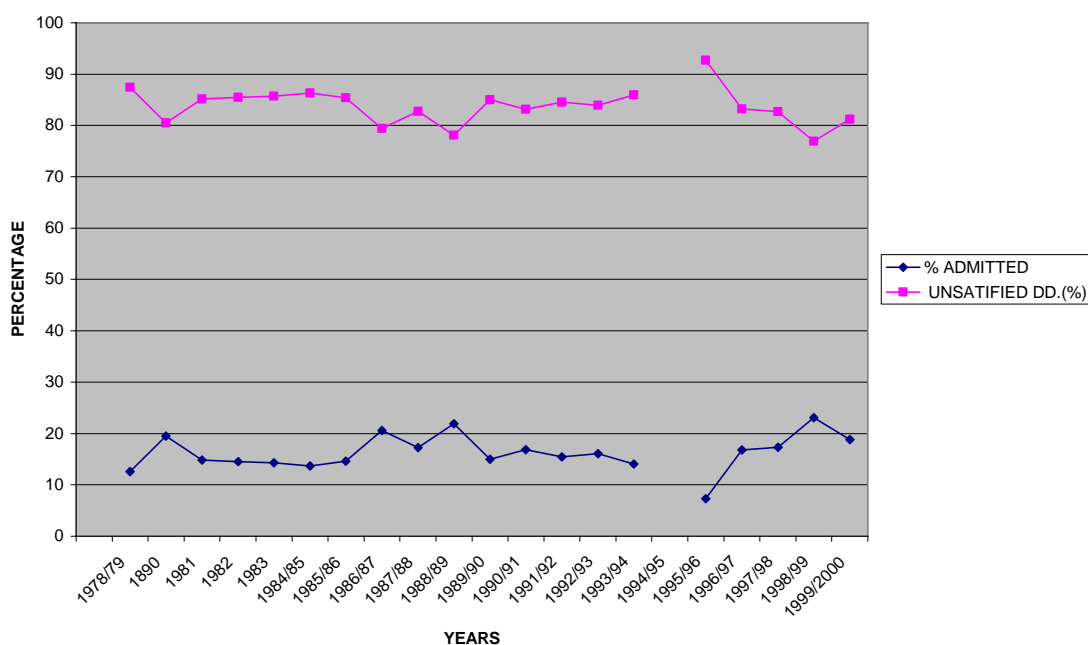
| ACADEMIC YEAR | NUMBER OF APPLICANTS | NUMBER ADMITTED | % ADMITTED | UNSATISFIED DD.(%) |
|---------------|----------------------|-----------------|------------|--------------------|
| 1978/79 | 114,801 | 14,417 | 12.6 | 87.4 |
| 1890 | 144,939 | 28,213 | 19.5 | 80.5 |
| 1981 | 180,673 | 26,808 | 14.8 | 85.2 |
| 1982 | 205,112 | 29,800 | 14.5 | 85.5 |
| 1983 | 191,583 | 27,378 | 14.3 | 85.7 |
| 1984/85 | 201,140 | 27,482 | 13.7 | 86.3 |
| 1985/86 | 212,114 | 30,996 | 14.6 | 85.4 |
| 1986/87 | 193,774 | 39,915 | 20.6 | 79.4 |
| 1987/88 | 210,525 | 36,356 | 17.3 | 82.7 |
| 1988/89 | 190,353 | 41,700 | 21.9 | 78.1 |
| 1989/90 | 255,638 | 38,431 | 15.0 | 85.0 |
| 1990/91 | 287,572 | 48,504 | 16.9 | 83.1 |
| 1991/92 | 398,270 | 61,479 | 15.4 | 84.6 |
| 1992/93 | 357,950 | 57,685 | 16.1 | 83.9 |
| 1993/94 | 420,681 | 59,378 | 14.1 | 85.9 |
| 1994/95 | ----- | ----- | ----- | ----- |
| 1995/96 | 512,797 | 37,498 | 7.3 | 92.7 |
| 1996/97 | 475,923 | 79,904 | 16.8 | 83.2 |
| 1997/98 | 419,807 | 72,791 | 17.3 | 82.7 |

| | | | | |
|-----------|---------|--------|------|------|
| 1998/99 | 340,117 | 78,550 | 23.1 | 76.9 |
| 1999/2000 | 417,773 | 78,550 | 18.8 | 81.2 |

Sources : JAMB,1988, 1999,2001

Table 2 indicates that between the 1978/79 and the 1999/2000 academic sessions; the percentage of candidates admitted into Nigerian universities out of the number of applicants ranged from 7.3 % in 1995/96 to 23.1 in 1998/99. This implied that the extent of unsatisfied demand for university education was overwhelming. This is further represented in Figure 1. The great gap between those desiring university education and actual provision remained worrisome to many intending admission seekers who saw the introduction of distance education programme a welcome development.

FIG. 1 :TRENDS IN UNSATISFIED DEMAND FOR UNIVERSITY EDUCATION IN NIGERIA (1978-2000)



Under-funding and the Quest for additional Sources of funding.

Since the dawn of the last decade of the 20th century there have been many economic and socio-political crises in the Nigerian polity with great consequences on the educational system. One of such consequences was the gross under-funding of the universities in mist of increasing demand. For example, between 1992 and 1996, the federal government could only spend an average of 10.46% of its annual budgets on education as against UNESCO’s recommended 15% (Akpotu, 1998). The shortage of funds for the university system remained compounded as government, parents and students “closed their ears” to the introduction of any form of tuition or development fees. The funding of universities and the introduction of fees remained politicized. In order to source for alternative and additional means of funding the universities led to the introduction of distance education.

Lack of Basic Physical Facilities

Over the years most Nigerian universities experienced lack of basic physical facilities and gross decay of available teaching and learning facilities like books, journals, laboratory facilities and over-crowded classrooms and hostels. In fact, this period witnessed an unprecedented increase in student enrolment. For instance, the rise in student enrolment for the period 1989 to 1992 stood at 198.8% (Nwadiani, 1993; 1994; Utulu, 2001). In spite of this tremendous explosion in student enrolment, the unsatisfied demand for university education within the period 1978/79 and 1999/2000 ranged from 92.7% to 76.9% as shown in Table 2 and Figure 1. Efforts to satisfy this unsatisfied demand for university education resulted in the establishment of distance education, and part-time degree programmes. In deed, the problem of demand for education which usually exceeds the facilities available remains a cardinal reason for the introduction of distance education in most countries- Zambia; Central Africa; Australia; Hong Kong and Taiwan (Wakatama, 1984; Sherritt, 1999).

Unemployment and Economic Depression

The economic depression of the 1990s and the introduction of the Structural Adjustment Programme (SAP) created mass unemployment and retrenchment of many workers. Also employers of labour, including government establishments could no longer grant study leave with or without pay to employees who wanted to proceed on further studies. In the circumstance, many workers who were tasty for university education but could not risk being thrown into graduate unemployment dilemma opted for a part-time or distance education programme which assured them the much needed job security while studying for a university degree. Also, many students who had no sponsors and hence could not afford the cost university education saw the emergence of the distance education programme a welcome development as it guaranteed self-sponsorship.

In less than three years of the establishment of the first satellite campus mainly by some state universities (Abia State University taking the lead in 1992/93), almost every university soon realized the economic viability of the programme which resulted in it's proliferation and abuse. To the extent that each of the universities had a satellite or contact centre in every urban and commercial city across the country. Standards were undermined as long as they were economically viable.

The Characteristics of Distance Education in Nigeria

Distance education as practiced in Nigerian universities fall short of known distance education programmes, the world over. In fact it remains still institutionalized, requiring "eyeball to eyeball" contact and can therefore be best described as institutionalized distance education. However, teachers and students are still separated by geographical distance. For example, it still requires students having to travel to a virtual classroom at fixed times or fixed days, usually at weekends or vacations to join a learning group.

It requires students having face-to-face interpersonal relationships with teachers, devoid of mechanical or electronic medium. Distance education as practiced in Nigerian universities until toward the end of 2001 school year was characterized by the establishment of "Satellite Campuses", "Out-Reach-Centers" Contact Centres" in existing secondary schools or colleges in major urban and commercial cities that are hundreds and thousands of kilometers away from the parent university. Such centers were managed as consultancy centers through appointed consultants who were not necessarily university teachers.

The consultants managed the centers on behalf of the university management; employed part-time teachers, majority of who were no regular university teachers, but provided they possess a masters' degree. These part-time teachers were either secondary school teachers, workers in near-by industries or unemployed graduates in search of regular employment. However, in out-reach centers about a hundred kilometers away from the parent university, the regular university teachers traveled there to deliver their lectures weekly or there about. This teaching was carried out by both part-time tutors and full-time, regular university lecturers at weekends. Lecture materials were prepared by the individual tutors or lecturers and sold to students as "hand outs" or "lecture notes". Efforts to centralize the production of such materials did not yield results as it economically empowered the tutors and lecturers. Thus it could not be said to embrace the correspondence method of teaching. The out reach centers were unduly proliferated and indiscriminately established without due regard for quality and standard. Most commercial and urban centers had virtually all Nigerian universities' outreach centers. For example, the oil cities of Warri and Port-Harcourt had fourteen outreach centers each of different universities established between 1995 and 2000. Other cities like Lagos, Abuja, Aba, Onitsha and Kaduna had outreach centers ranging from ten to twenty each within the same period.

The National Teachers' Institute (N.T.I) has its own form of distance education which was the form of a correspondence programme. The NTI has no less than five thousand centers all over the country for primary school teachers to undergo the Nigerian Certificate in Education (NCE) programme. In the NTI programme, course lectures are centrally prepared into modules and given to the students at the commencement of the semester. The students are expected to attend lectures in designated centers weekly and on vacations where employed instructors are expected to explain the content of the lecture models to them. At the end of the semester, centrally set examinations are organized nation-wide, usually during vacations.

The university of Lagos "COSIT" programme is also organized exactly the same way as the NTI's. However, only university towns are used as their contact centers where university teachers can easily be available for use as resource persons or instructors. Nevertheless, the students are expected to be in the parent university at the end of every academic session to write their examinations.

One outstanding characteristic of the distance education in Nigerian university is the fact that it remains an adult education programme for students of no less than thirty years of age. It is therefore a "second chanced" education programme meant for experienced adult workers who desire university education but cannot resign their regular jobs to enroll in the conventional system. More often than not, as workers, the students enroll in courses relevant to their jobs or business practices. Even some employers insist on granting permission only to staff who are admitted to read courses that are relevant to the needs of the organization. This characteristic falls in line with the practice in France; for Kenyan and German teachers; the experience of Isaac Pitman in Bath and England and Australia. (Wakatama, 1984; Farnes, 1997).

Problems and Abuse of Distance Education in Nigeria

The operation of distance education in Nigerian universities has been subjected to series of problems and abuse. Very recently, keen observers of the developments saw distance education as a rape on university education. The Nigerian press and the association of university teachers (Academic Staff Union of Nigerian Universities- ASUU), quickly challenged their operations and

called on the government to check their excesses. The following can be identified as the problems and kinds of abuse.

Proliferation of “Contact or out-reach centers”

There was the problem of proliferation of study centers or contact centers. Virtually every secondary school or college in every major urban area in most parts of the country was an “outreach” center. Any business man with close contact with a university management could easily have an outreach center of that university approved for him to run. To the extent that sign-posts of such study centers littered the streets. Academic excellence was therefore not of primary concern to their establishment.

The problem of Technology

The distance education as practiced in Nigerian universities lacked technology, let alone using technology as a substitute for the teacher. Like the conventional system, the basic learning facilities-physical, and human- are in short supply. Students have no easy access to university library and internet facilities nor are there computer laboratories and electronically catalogued libraries. Also, at the institutional level, learning opportunities such as self-instructional materials, radio-wave technology, and electronic classrooms with internet video-conferencing technology are non existent. The poor state of power supply in most university campuses remained another crucial problem that even with the provision of the basic technology, generating regular electricity for their operation would be another hurdle.

The Problem of Mismanagement of Funds.

There is also the problem of mismanagement of funds. It is unfortunate that the university management who are to utilize maximally the huge resources derivable from the programmes and hence, bail out the universities from their financial predicament, are unable, but rather mismanage the resources to the utmost disappointment of all. This is as a result of the long tradition of non-accountability and the fact that external auditors to universities hardly have access to records of internally generated revenues.

The National Universities Commission (NUC) that is set up to control and monitor all Nigerian universities could neither control the enforcement of standards nor the accruing financial resources. Thus, standards were undermined while the programmes remained “a gold-mind for the operators- the university management, consultants and instructors or teachers who saw the programme as a means of enhancing their individual economic well-being, while exploiting the students and the university remained without the basic facilities.

Strategies for Improving the Management of Distance Education in Nigeria.

The fact remains that distance education in whatever form remains a welcome development for Nigeria, which has a tradition of free tuition in universities, yet can neither adequately fund the universities nor provide access for more than 5 % of the required enrollees. The alternative therefore is for the distance education option to be properly managed to supplement regular degree programmes. More so, the governments are not contemplating establishing new universities or even expanding the existing universities.

The first strategy towards improving the management of the distance education programme is the enforcement of the academic staff union of Nigerian universities (ASUU)

agreement with the Federal Government on the closure of the 'outreach' centers nation-wide. As the government has pronounced their closure, the universities must then adopt measures to restrict the operation of their distance education programmes to within the university. In addition to the ongoing weekend, vacation and sandwich degree programmes, evening programmes, correspondence programme and the Open University programme can also be introduced to accommodate those who cannot fit into the existing programmes.

In the absence of regular electricity supply for radio, television and internet training programmes, the university management should commission their lecturers to produce detailed course lecture modules in book form for distance education students such lecturers should be well remunerated and be entitled to an agreed percentage of every copy sold. The lecture modules can also be recorded in audio and visual tapes for sale to students. The instructional materials should be made available to the students long before the commencement of an academic session.

The funds accruing from the programmes after all expenses should be declared open to the entire university community. Through dialogue and constant consultations with the operators of the programmes, project needs are identified and implemented. In this way, some level of financial autonomy should be given to the operators of the programme devoid of management interference. The basic needs of the programmes like instructional materials, internet services, construction of adequate lecture halls and transit halls of residence need to be provided for students. The government, through its supervisory organ, the NUC, can also institute some control mechanisms for monitoring academic standards as is done in regular programmes. In deed, the university managements must ensure that the quality of teaching and learning in distance education programmes are the same with regular. In this regard, the Australian experience of ensuring equal status for both external and internal degrees is recommended. The NUC and the governments that own the universities must stress for accountability and endeavour to tie the release of funds to the universities to a satisfactory proof of how well internally generated funds are expended.

It is our hope that the proper management of the resources derivable from distance education programmes can go a long way in solving much of the under-funding that characterize the Nigerian university educational sub-system; thereby breaking the yoke of being an elite preserve to a universal or mass system.

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Education Infrastructure Inequality Among Rural And Urban Local Government Areas Of Lagos State, Nigeria

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Abstract

Infrastructure plays a significant role in socio-economic development. Educational infrastructure, in particular, has positive impacts on all aspects of development; including agriculture. Hence Nigeria's education policy provides for nine years of education for all school age children. This presupposes that every child will have access to primary and secondary schools wherever he may be living within the country.

The study assessed the distribution of primary and secondary schools educational infrastructure in Lagos State, Nigeria using the dissimilarity index and gini coefficient, among others. The results show that inequality exists in the distribution of educational infrastructure and that the rural/agricultural Local Government Areas are disadvantaged. The inequality appears higher if the number and spread of communities, as opposed to population, are the basis for calculating the indices. The inequality is much higher in the distribution of private sector investments in educational infrastructure compared to public sector investments. This implies that the emphasis on increased role for the private sector in the provision of educational infrastructure by government may put the rural/agricultural communities at a disadvantage.

1.0 INTRODUCTION

Infrastructural facilities play a major role in socio-economic development. They impact positively on agricultural development (Idachaba, F. S., et al 1995, Ahmed, 1988). The facilities should not only be available but must also be accessible before we can expect them to contribute meaningfully to development. Availability and accessibility are essentially issues relating to the number of specific facilities in relation to the population, the cost of gaining access and, more especially, affordability. The implication of these is that a particular infrastructure (e.g. primary schools) should not only be available in a community, it should also be affordable to the average member of the community.

Another factor that should equally be given adequate consideration in respect of infrastructural development is the quality of the infrastructural facilities. This is because the quality of the facilities determines the quality of the services that members of the communities can derive from them. A primary school that is built to minimum standard and staffed with qualified teachers will provide a good learning environment to the pupils and will contribute more to the socio-economic development of the society on a long-term basis.

Availability of infrastructure impacts positively on development of rural/agricultural communities. Educational infrastructure in particular impacts positively on the productivity of both agricultural and non-agricultural labour force in several ways. For example, the level of adoption of new agricultural technology is known to be positively correlated with the level of education. Thus, overtime, as more school leavers stay back to work in agriculture, the impact of educational infrastructure in the rural/agricultural economy will be better felt in terms of increased adoption of new agricultural technologies. Just as education will lead to adoption of new agricultural technologies and hence increased agricultural productivity, it will also increase the productivity of non-agricultural labour force in the rural economy through the adoption of better technologies (Sabot, 1988). The ability to exploit opportunities to commercialize

agriculture is enhanced significantly with the eventual increase in the attained educational level of agricultural labour. Increased commercialization tend to increase the linkage between the rural and urban economies, gradually bridging the income and living standard gaps between the rural and the urban centres.

The educational policy in Nigeria provides for nine years of basic education for all Nigerian children. Also, the Universal Basic Education (UBE) programme aims to provide access to education for all Nigerian children for the first nine years of school life (National Planning Commission, 2004) This implies that public sector financed school facilities will be available and accessible to all school age children. Accessibility means, among others, that schools will be available at distances at which parents will not have to incur excessive transport cost daily. Thus, it is expected that most communities should have adequate number of public primary and secondary schools at reasonable distances from the homes of school age children. In addition to the public schools, there are duly approved private schools that are situated in communities, which their proprietors considered as having effective demand. A major implication of the educational policy is that government will pursue equitable distribution of educational infrastructure. It is therefore expected that primary and secondary educational infrastructure will be available in adequate numbers given the distribution of populations and communities across Local Government Areas (LGAs). LGAs with high populations and/or more communities are hence expected to have proportionately more schools.

In recent years, governments at all levels in Nigeria have also been pursuing the policy of promoting increased financing of infrastructure development by the private sector. In the educational sector, this implies that governments expect more schools to be established and run by private entities. However, while governments strive for equitable distribution of educational infrastructure, the private sector strives after maximum returns on its investment in educational infrastructure. The private sector is therefore expected to invest in communities and/or LGAs where there is effective demand, i.e. the demand for placements in schools is high and, at the same time, ability to pay school fees is high. A non-alignment of goals thus appears to exist in the educational infrastructure investment objectives of the public and private sectors. This non-alignment may create inequality in the distribution of educational infrastructure, if there are no conscious government efforts to compensate for private sector investments. The communities/LGAs that are likely to be adversely affected are the rural/agricultural ones where effective demand for education may be low due to relatively high level of poverty. This paper therefore attempts to appraise the distribution of educational infrastructure in Lagos State with a view to determining:

- if inequality exists in the distribution;
- how comparatively well rural/agricultural communities have fared in the distribution of educational infrastructure in the State; and
- The effects of private sector investment in educational infrastructure on distribution of educational facilities in the State.

2. **Methodology**

2.1 Types and Sources of Data

Only secondary data were used for this study. The secondary data on public and duly registered private educational facilities were obtained from the records of the Planning, Research and Statistics Department (PRSD), Ministry of Education, Lagos State. In addition, the distribution of communities across the Local Government Areas of Lagos State was obtained from a survey

conducted by the Centre for Rural Development (CERUD), an agency of the Lagos State Ministry of Rural Development. The population figures for the LGAs are projected figures and were extracted from the publication of the Centre for Rural Development.

The data collected from the (PRSD), Ministry of Education, Lagos State are the names and addresses of all public and duly registered private educational facilities in the State. Given the addresses, the facilities were categorized into different LGAs, thus establishing the number of educational facilities in the various LGAs. Based on the rural-urban classification study carried out by CERUD (2002), the most rural LGAs are Amuwo-Odofin (71% rural), Badagry (65% rural), Epe (93% rural), Ibeju-Lekki (92% rural) and Ikorodu 71% rural). However, in terms of agricultural activities, Amuwo–Odofin has relatively insignificant agricultural production. Thus, for the sake of this study, rural/agricultural LGAs are taken to be Badagry, Epe, Ibeju-Lekki and Ikorodu.

2.2 Data Analysis and Analytical Tools

The data on primary and secondary schools were presented in the form of distribution by Local Government Areas (LGAs). Also included in the distribution are the landmass, populations of and the number of communities in the various LGAs. The distribution was thereafter analyzed to indicate the number of communities, population and landmass per school. The number of communities per school provides an indication of how many communities share a school on the average and whether school children within some communities have to go outside their communities to attend school or not. For example, if this statistic is 2, it implies that two communities have to share a school on the average. This also implies that the children in the community in which the school is situated stay within their community while the children in the other community have to commute daily between their community and the other to attend school. In rural LGAs where communities are usually dispersedly spread, children going to school in other communities may have to trek significant distances every day. In the urban centres, this has implication for transportation costs for school children and the time required by parents to convey the very young children to and from school daily.

In addition to the above, the extent of inequality in the distribution of the schools between LGAs was explored with the Index of Dissimilarity (ID) and the Gini Coefficient (G) These two statistics are based on the Lorenz curve.

The ID is the summation of vertical deviations between the Lorenz curve and the line of perfect equality. The closer the ID is to 1, the more dissimilar the distribution is to the line of perfect equality. The index is calculated as:

$$ID = 0.5 \sum_{i=1}^N |X_i - Y_i|$$

Where,

X is the cumulated proportion of the number of communities or populations of the LGAs,

Y is the cumulated proportion of the number of educational (primary or secondary schools) infrastructure in the LGAs; and.

N is the number of LGAs.

The Gini Coefficient measures the degree of concentration (inequality) of a variable in a distribution of its elements. It ranges between 0, where there is no concentration (perfect equality), and 1 where there is total concentration (perfect inequality). Thus, the closer the coefficient is to 1, the more unequal the distribution. It is calculated as

$$G = 1 - \sum_{i=0}^N (\sigma Y_{i-1} + \sigma Y_i) (\sigma X_{i-1} - \sigma X_i)$$

Where

σX is cumulative proportions of the number of communities or populations of the LGAs; σY is the number of educational (primary or secondary schools) infrastructure in the LGAs; and

N is the number of LGAs (Castillo-Salgado, C. et. al. 2001, Rodrigue, J-P et. al., 2004).

3. Results and Discussion

3.1 Distributions of Populations, Communities and Landmass

The distributions populations, number of communities and landmass by LGAs are presented in Table1. The table shows that the rural/agricultural LGAs (Badagry, Epe, Ibeju-Lekki and Ikorodu) accounted for relatively lower percentages of the population, higher percentages of number of communities and hence low population per communities. In fact, they jointly accounted for 11.64%, 44.55% and 70.74% of the population, number of communities and landmass; respectively These LGAs have relatively large geographical areas, low population densities and communities that are more spread out than the other LGAs. The average population per communities for these LGAs are 1,199, 1,530, 235 and 994 for Badagry, Epe, Ibeju-Lekki and Ikorodu, respectively.

Table 1: Distribution of Population, Communities and Land Mass by LGAs

| S/No. | LGA | Population | | Communities | | Land Mass | | Population Density |
|-----------|------------------|------------|------------------|-------------|------------------|-----------------|------------------|--------------------|
| | | Number | Percent of Total | Number | Percent of Total | Square Kiometre | Percent of Total | |
| 1 | Agege | 608,925 | 7.83 | 60 | 3.79 | 20.00 | 0.70 | 30,446 |
| 2 | Ajeromi/Ifelodun | 757,097 | 9.74 | 60 | 3.79 | 16.00 | 0.56 | 47,319 |
| 3 | Alimosho | 584,601 | 7.52 | 127 | 8.03 | 140.80 | 4.92 | 4,152 |
| 4 | Amuwo-Odofin | 287,720 | 3.70 | 69 | 4.36 | 156.00 | 5.45 | 1,844 |
| 5 | Apapa | 78,142 | 1.01 | 32 | 2.02 | 28.50 | 1.00 | 2,742 |
| 6 | Badagry | 161,813 | 2.08 | 135 | 8.53 | 366.00 | 12.79 | 442 |
| 7 | Epe | 137,659 | 1.77 | 90 | 5.69 | 644.00 | 22.50 | 214 |
| 8 | Eti-Osa | 206,045 | 2.65 | 71 | 4.49 | 157.00 | 5.48 | 1,312 |
| 9 | Ibeju- Lekki | 33,832 | 0.44 | 144 | 9.10 | 646.00 | 22.57 | 52 |
| 10 | Ifako-Ijaiye | 274,743 | 3.53 | 56 | 3.54 | 46.00 | 1.61 | 5,973 |
| 11 | Ikeja | 275,936 | 3.55 | 41 | 2.59 | 52.92 | 1.85 | 5,214 |
| 12 | Ikorodu | 250,553 | 3.22 | 252 | 15.93 | 203.00 | 7.09 | 1,234 |
| 13 | Kosofe | 512,056 | 6.59 | 65 | 4.11 | 77.40 | 2.70 | 6,616 |
| 14 | Lagos Island | 225,211 | 2.90 | 49 | 3.10 | 13.20 | 0.46 | 17,061 |
| 15 | Lagos Mainland | 381,997 | 4.91 | 62 | 3.92 | 22.62 | 0.79 | 16,888 |
| 16 | Mushin | 732,340 | 9.42 | 67 | 4.24 | 17.05 | 0.60 | 42,952 |
| 17 | Ojo | 321,453 | 4.13 | 84 | 5.31 | 166.00 | 5.80 | 1,936 |
| 18 | Oshodi/Isolo | 610,231 | 7.85 | 22 | 1.39 | 44.98 | 1.57 | 13,567 |
| 19 | Shomolu | 534,247 | 6.87 | 42 | 2.65 | 15.10 | 0.53 | 35,381 |
| 20 | Suleja | 800,400 | 10.29 | 54 | 3.41 | 30.05 | 1.05 | 26,636 |
| June 2005 | Total | 7,775,001 | 100.00 | 1582 | 100.00 | 2,862.62 | 100.00 | 38,2716 |

3.2 **Distribution of Primary and Secondary Schools**

Table 2 shows that the rural/agricultural LGAs accounted for lower percentages of the total number of primary and secondary schools. However, Eti-Osa and Lagos Island also recorded low percentages of 2.58 and 1.97 respectively for primary schools. These are LGAs that are dominated by commercial entities and have relatively low residential populations. For the same reason, Lagos Island and Apapa accounted for 2.34% and 2.13% of the secondary schools, respectively.

The figures of population of residents per school show that rural/agricultural LGAs are in better stead than the urban ones. The relatively lower populations per school implies that there will be fewer numbers of children per school when you apply the percentage of the children in the total population to the population figures[∨]. However, the numbers of communities per primary and secondary schools clearly show that the rural/agricultural LGAs are clearly disadvantaged since they recorded the highest numbers of communities per school. The figures for primary schools are Badagry, 2.21; Epe, 1.08; Ibeju-Lekki, 4.24 and Ikorodu, 2.90. The other LGAs that recorded figures above 1.0 are Eti-Osa (1.29) and Lagos Island (1.17). Similarly, the figures for secondary schools are Badagry, 9.64; Epe, 3.21; Ibeju-Lekki, 13.09 and Ikorodu, 9.33. Compared to the other LGAs, Badagry, Ibeju-Lekki and Ikorodu are definitely disadvantaged. This clearly shows that, in the rural/agricultural communities, school children have to go to other communities to obtain education.

Given the geographical size of the rural/agricultural LGAs and the distance between communities, the distances covered to obtain education by some children could be significant. This may also be contributing to rural-urban migrations since children may have to be sent to relations in urban communities to obtain education. From Table 2, the land areas per primary school are 6.00kmsq for Badagry, 7.76kmsq for Epe, 19.00kmsq for Ibeju-Lekki and 2.33kmsq for Ikorodu. Similar figures for secondary schools are 26.14kmsq, 23.00kmsq, 58.73kmsq and 7.52kmsq for Badagry, Epe, Ibeju-Lekki and Ikorodu, respectively. These statistics definitely highlight an infrastructural development dilemma. Government may want to maximize the use of educational infrastructure by establishing schools in locations with significant populations. This may however, imply that communities with low population densities will have to send their children to school in other communities at significant distances from home.

[∨] Based on the 1991 population census, 45% of the Nigerian population is 15 years and below.

TABLE 2: DISTRIBUTION OF PRIMARY AND SECONDARY SCHOOLS IN LAGOS STATE BY LOCAL GOVERNMENT AREAS

| LOCAL GOVERNMENT | Primary Schools | | | | | Secondary Schools | | | | |
|-----------------------|-----------------|------------------|----------------------------------|-----------------------|-----------------------------|-------------------|------------------|----------------------------------|-----------------------|-----------------------------|
| | Number | Percent of Total | Number of Communities per School | Population per School | Land Area per School (kmsq) | Number | Percent of Total | Number of Communities per School | Population per School | Land Area per School (kmsq) |
| 1. AGEGE | 131 | 6.14 | 0.46 | 4,648 | 0 | 19 | 4 | 3 | 32,049 | 1.05 |
| 2. AJEROMI - IFELODUN | 107 | 5.01 | 0.56 | 7,076 | 0.15 | 21 | 4.47 | 2.86 | 36,052 | 0.76 |
| 3. ALIMOSHO | 235 | 11.01 | 0.54 | 2,488 | 0.60 | 34 | 7.23 | 3.74 | 17,194 | 4.14 |
| 4. AMUWO - ODOFIN | 81 | 3.80 | 0.85 | 3,552 | 1.93 | 25 | 5.32 | 2.76 | 11,509 | 6.24 |
| 5. APAPA | 102 | 4.78 | 0.31 | 766 | 0.28 | 10 | 2.13 | 3.20 | 7,814 | 2.85 |
| 6. BADAGRY | 61 | 2.86 | 2.21 | 2,653 | 6.00 | 14 | 2.98 | 9.64 | 11,558 | 26.14 |
| 7. EPE | 83 | 3.89 | 1.08 | 1,659 | 7.76 | 28 | 5.96 | 3.21 | 4,916 | 23.00 |
| 8. ETI - OSA | 55 | 2.58 | 1.29 | 3,746 | 2.85 | 24 | 5.11 | 2.96 | 8,585 | 6.54 |
| 9. IBEJU - LEKKI | 34 | 1.59 | 4.24 | 995 | 19.00 | 11 | 2.34 | 13.09 | 3,076 | 58.73 |
| 10. IFAKO - IJAIYE | 83 | 3.89 | 0.67 | 3,310 | 0.55 | 18 | 3.83 | 3.11 | 15,264 | 2.56 |
| 11. IKEJA | 105 | 4.92 | 0.39 | 2,628 | 0.50 | 29 | 6.17 | 1.41 | 9,515 | 1.82 |
| 12. IKORODU | 87 | 4.08 | 2.90 | 2,880 | 2.33 | 27 | 5.74 | 9.33 | 9,280 | 7.52 |
| 13. KOSOFE | 135 | 6.33 | 0.48 | 3,793 | 0.57 | 23 | 4.89 | 2.83 | 22,263 | 3.37 |
| 14. LAGOS ISLAND | 42 | 1.97 | 1.17 | 5,362 | 0.31 | 11 | 2.34 | 4.45 | 20,474 | 1.20 |
| 15. LAGOS MAINLAND | 102 | 4.78 | 0.61 | 3,745 | 0.22 | 37 | 7.87 | 1.68 | 10,324 | 0.61 |
| 16. MUSHIN | 146 | 6.84 | 0.46 | 5,016 | 0.12 | 25 | 5.32 | 2.68 | 29,294 | 0.68 |
| 17. OJO | 91 | 4.26 | 0.92 | 3,532 | 1.82 | 16 | 3.40 | 5.25 | 20,091 | 10.38 |
| 18. OSHODI - ISOLO | 155 | 7.26 | 0.14 | 3,937 | 0.29 | 41 | 8.72 | 0.54 | 14,884 | 1.10 |
| 19. SHOMOLU | 110 | 5.15 | 0.38 | 4,857 | 0.14 | 19 | 4.04 | 2.21 | 28,118 | 0.79 |
| 20. SURULERE | 189 | 8.86 | 0.29 | 4,235 | 0.16 | 38 | 8.09 | 1.42 | 21,063 | 0.79 |
| TOTAL | 2134 | 100 | 0.74 | 3,643 | 1.34 | 470 | 100 | 3.37 | 16,543 | 6.09 |

3.2 Concentration Indices for Primary and Secondary Schools

The dissimilarity and gini indices for primary and secondary schools infrastructure in Lagos State are presented in Table 3. The indices are presented with respect to the number of communities in and the populations of the respective LGAs. They were calculated for public and private schools separately and the two combined for primary and secondary educational infrastructure. Based on the indices contained in the table, the following inferences could be drawn:

- ❑ There is some inequality in the distribution of public and private educational infrastructure across the LGAs in Lagos State.
- ❑ The inequality in the distribution of private educational infrastructure is much higher than that of public educational infrastructure.
- ❑ The inequality is more pronounced if the number of communities is the basis of assessing the distribution of the educational infrastructure.

Given that the rural/agricultural LGAs have more communities, that are spread over relatively wider areas, sharing educational infrastructure (see Table 2), they will be less disadvantaged if

the number and spread of communities across LGAs could be given consideration by government in allocating resources for the establishment of educational infrastructure.

A more important inference from the concentration indices is that the private sector investment and/or free market forces may enhance inequality in the distribution of educational infrastructure since the goal of the private sector is profit maximization. The private sector will concentrate its investments in educational infrastructure in LGAs where the maximization of profit is more assured. Government must therefore continually strive to mitigate any inequality created by private sector through its investment in educational infrastructure. The moderating effect of public sector on the inequality created by private sector investments in education is demonstrated by the indices for public and private sectors combined compared to those of the private sector alone. For example, the gini coefficients for secondary schools based on the population are 0.05836, 0.35316 and 0.05851 for public, private and public and private sector combined, respectively. The 0.0581 obtained for the public and private sector combined demonstrates the moderating effects public sector investment on the concentration of private sector investments that has a coefficient that is seven times as high as that of the public sector.

5. Conclusions and Recommendations

| SCHOOLS | COMMUNITIES | | POPULATION | |
|--------------------|---------------------|------------------|---------------------|------------------|
| | Dissimilarity Index | Gini Coefficient | Dissimilarity Index | Gini Coefficient |
| PRIMARY | | | | |
| Public | 0.27323 | 0.04820 | 0.21383 | 0.03067 |
| Private | 0.47038 | 0.56650 | 0.21516 | 0.21246 |
| Public and Private | 0.36085 | 0.37105 | 0.14129 | 0.03932 |
| | | | | |
| SECONDARY | | | | |
| Public | 0.29253 | 0.13801 | 0.21483 | 0.05836 |
| Private | 0.47378 | 0.58605 | 0.34976 | 0.35316 |
| Public and Private | 0.30428 | 0.19184 | 0.21461 | 0.05851 |

There is inequality in the distribution of primary and secondary schools educational infrastructure in Lagos State, Nigeria. This inequality is more pronounced if the basis of estimation is the number of communities and not the population. The inequality is more pronounced in the distribution of private primary and secondary schools educational infrastructure compared to those of the public sector.

The rural/agricultural LGAs appear to be disadvantaged in the distribution of educational infrastructure given the number of communities that have to share schools. The school children in these LGAs have to commute between their communities and others daily to attend school. Where such distances are significant, parents may have to send the children to stay with relations in the urban areas to obtain education. Such children may opt to stay in the urban areas on completion of their education thus increasing rural-urban migration.

Given that the distribution of private schools shows more inequality and the fact that private entrepreneurs will most likely build schools where there is effective demand for education, the rural/agricultural LGAs will be disadvantaged because of lower incomes and hence, relatively

lower effective demand for education. There is hence a need for government to monitor the distribution of educational infrastructure and plan new ones in such a way that inequality in the distribution of educational infrastructure will be reduced. Deliberate effort must be made to compensate for lower private sector investment in educational infrastructure in the rural/agricultural areas.

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Integrating Information And Communication Technologies (IcTs) In Nigerian Tertiary Education

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Abstract

Information and Communication Technologies (ICTs) literature has indicated that appropriately used ICTs constitute potent tools for enriching traditional teaching, learning, and research in Nigerian tertiary institutions. This paper explores various applications of ICTs in teaching, learning, and research. The paper concluded that although ICTs are relevant to all aspects of tertiary institutions, they have not been widely integrated in teaching, learning, and research in Nigerian tertiary institutions. It was therefore recommended that lecturers should be given professional development training, so that they can integrate ICTs in their institutional assignments.

Introduction

Tertiary education occupies the apex of education endeavours in Nigeria. Tertiary education is offered after secondary education, in universities, colleges of education, polytechnic, and monotechnics, among others. The goals of tertiary education as noted in the national policy on education (FRN, 2004) include: the contribution to national development through high level manpower training, development and inculcation of proper values for the survival of Nigerian society and individuals, development of the individual's intellectual capabilities so as to understand their immediate and local environment, and provide opportunities for the acquisition of physical and intellectual skills necessary for individuals to be self-reliant and be useful member of the society. It is also meant to promote and encourage scholarship and community service, forge and promote national unity, and the promotion of national and international understanding.

These goals are to be pursued through teaching, research and development, virile staff development programme, generation and dissemination of knowledge, and so on (FRN, 2004). In order to achieve these goals Nigerian institutions need to husband the potentials inherent in information and communication technologies. The Nigerian national policy for information technology (IT) (FRN, 2001) envisaged the integration of ICTs at every level of educational institutions. Thus, the tertiary institutions need to play a leading role in the use and integration of ICT in teaching, learning, and research.

Information and Communication Technology (ICT) is defined as computer based tools used by people to work with the information and communication processing needs of an organisation. It encompasses the computer hardware and software, the network and several other devices (video, audio, photography camera, etc.) that convert information (text), images, sound, motion, and so on into common digital form (Milken Exchange on Education Technology, 1999). It is an eclectic application of computing, communication, telecommunication and satellite technology (Yusuf, 2000). Information and communication technologies (ICTs) have had significant impact on the traditional school system. They have provided innovative opportunities for teaching and learning, and they have engendered advances in research about how people learn, thereby bringing about rethinking the structure of education (Lopez, 2003).

Lecturers in tertiary institution are not only teaching to impart needed learning experience on students, they are also life-long learners, since they need to keep abreast of new developments in

their field. They also need to be involved in research and development. Thus, they have tri-personality as teachers, learners, and researchers. Furthermore, they are engaged in other administrative assignments.

It is widely acknowledged that ICTs can be used to improve the quality of teaching and learning in any tertiary institution. The prevalence and rapid development of information and communication technologies (ICTs) has transformed human society from the information technology age to the knowledge age (Galbreath, 2000). In fact, ICTs are becoming natural part of man's daily life; thus their use in education by staff (academic and non-academic) and students is becoming a necessity. Certainly, the present and future academic global community will utilise ICTs to a high degree. This has made it imperative that lecturers not only need to use ICTs, but they need to become comfortable with using ICTs. This is to ensure that they participate fully in the life of the contemporary tertiary institutions and to accomplish their everyday task.

Information and Communication Technologies in Tertiary Education

Information and communication technologies can be employed in various ways in Nigerian tertiary institutions. It is apposite at this point to examine the nature of use of ICTs in education. ICTs have the potentials of not only ensuring effectiveness and efficiency in lecturers' professional development, teaching, and research; they also have the potentials of easing the administrative duties. These applications are further elucidated below. It should be underscored that ICTs are instruments for and not the substance of education (Lopez, 2003).

Collis and Moonen (2001) made a distinction in literature between learning about ICT and learning with ICT and through ICT. These distinctions are important if lecturers are to integrate ICTs in their instructional delivery process. The first stage of ICT application in school is teaching about ICT which is called *topicality*, that is, ICT is the topic. A higher level to that development is teaching with ICT or through ICT, that is, the presentation and distribution of instructional content through web environment (e-teaching) or systems offering an integrated range of tools (stand-alone computer instruction, CD ROM, among others) to support learning and communication.

Further classifications of the outcomes expected of the teacher in using ICTs to enhance teaching were made by Selinger and Austin (2003), as personal, subject and teaching competencies. Personal competencies entail the skills, knowledge and understanding of when, when not and how to use ICT effectively in teaching a particular subject, that is, skills in functions, operation, use and capability of ICT which supports teaching. Subject competence is defined as knowledge of the functions, operations use and features of ICT and how ICT can be used to support teaching and learning. Additional competence includes knowledge of subject specific courseware and the way in which information can be handled through ICT. Teaching competency deals with the ability to plan, prepare, teach, assess and evaluate lessons in which ICT could be seen to be supporting a range of suitable learning outcomes.

Kirschner and Davis (2003) summarised the competencies required by teacher/lecturer in ICT application in education. These are that teachers become competent to make personal use of ICT; competent masters of a range of educational paradigms that make use of ICT; sufficiently competent to make use of ICT as mindtools; competent to make use of ICT as a tool for teaching; competent in mastering a range of assessment paradigms which make use of ICT; competency in understanding the policy dimensions of the use of ICT for teaching and learning.

Moursund and Bielefeldt's (1999) (1999) identified three major ways of using ICT for teaching and learning. These are *information technology (IT) assisted learning, technology as a tool and computer and information science*. Information Technology (IT) assisted learning was divided into (i) computer-assisted learning, which is the interaction between a student and a computer system designed to help the students learn (drill and practice, tutorials, simulations and virtual realities). (ii) Computer assisted research implies where ICT is used as an aid to doing library and empirical research. This is enhanced through the growth of World Wide Web which has created virtual library that can only be accessed by the technologically literate. (iii) Distance learning, which is the use of telecommunications, designed to facilitate students' learning through e-mail, interactive web sites and two-way audio/video teleconferencing.

Technology as a tool involves the use of a large array of hardware and software: word processors, graphic packages, digital camera, presentation applications, databases, and spreadsheet, among others. These hardware and software do not have limited educational purpose, but they are designed to help people extend their abilities to do work. Digital science probes, for instance, are more specialised. Computer and information science deal with speciality in computer as an area of study for students with particular interests in technology. Information and Communication Technology (ICT) should be used as a pedagogically powerful tool for the construction and modelling of knowledge.

In spite of ICT recognised potentials, their integration in teaching learning process will be dependent on teachers' knowledge, competence and willingness to integrate ICT in their teaching. Empirical findings have indicated that even teachers who have competence in the use of ICT do not integrate them in their teaching. For instance, Moursund and Bielefeldt's (1999) report on new teachers' use of information technology indicated that: - (i) the technology skills of teacher education faculty were comparable to the skills of the student they teach; and that (ii) most teacher educators did not model the use of technology in their teaching. Thus, lecturers need to be inducted not only to be competent in using ICT but also in integrating them in instruction.

Information and Communication Technologies and Students' Learning Outcome

ICTs offer great potentials in enhancing students' learning. Research reviews by Cradler and Bridgforth (nd), Davis and Tearle, (1999), Lopez, (2003), among others, have revealed the following advantages for students. First information and communication technologies offer a constructivist approach to learning through the provision of interactive learning experiences. When interactivity is prominent in learning it increases students performance. ICTs also increase interactivity with instructional programmes.

Second, learning through ICTs is more effective as they provide opportunities for using multiple technologies (video, computer, telecommunication, etc), thereby providing visualization aids in the internalization and understanding of difficult concepts and processes. This gives opportunities for providing links between theory and practice.

Third, ICTs provides opportunities for students to gain valuable computer skills which are germane in today's job market. That is, they can be used as a ready means of preparing today students for future work places. Students as future employees will be equipped with the requisite competence and knowledge to use ICTs within their work, thereby increasing the preparation of students for most careers and vocations.

Also, ICTs provide opportunities for flexible learning as course information are always available and accessible, thereby catering for students of different learning styles. This increases opportunities for students' constructed learning, and individualization of instruction. Students are therefore encouraged to develop their problem solving skills and this promotes students' creativity.

In addition, ICTs increase students' opportunities for collaboration and communication on projects. They aid students in collaboration on group works as students can develop their own group pages and discussion board. Furthermore, they can collaborate with lecturers and professional organisations.

ICTs also provide students with repertoire of resources to enhance learning. Students have access to current and up-to minute (Lopez, 2003) information with ease students can revise and update learning resources available to them. It should be stressed that ICTs also have plethora of benefits for tertiary institutions teaching.

Information and Communication Technologies (ICTs) and Teaching

Research findings have equally indicated that the integration of ICT in teaching is generally positive, leading to radical shift from the traditional teacher-directed/didactic approach to a more student- entered/constructivist approach (Cradley & Bridgforth, nd, Lopez, 2003, Kirschner & Woperies, 2003) ICTs can engender variety of tools to support and facilitate teachers' professional competence.

First, ICT increased administrators and teachers' productivity. This is because ICTs transform teaching and helps teachers to be more efficient and effective. Teachers also develop increase interest in teaching. Second, the use of ICTs can assist in the organisation and the structure of the course and course materials. It thereby promotes rethinking and revision of curriculum and instructional strategies.

Third, ICTs increase teachers' emphasis on individualized instruction. They enable teachers to spend more time with individual students, with less time for lecturing to the whole class, thereby involving students to carry out more independent work. This gives teacher more time to focus on teaching higher level concepts in the classroom. Fourth, ICTs provides teachers with opportunities for experimenting with emerging technologies, thereby aiding in the provision of interesting and creative presentation of content. Thus, ICTs provide a multi-media presence in the classroom.

In addition, ICTs provide increased opportunities for teachers' to collaborate and network with colleagues, thereby increasing communication among teachers. Furthermore, teachers and administrators are provided with better opportunities to communicate with parents and the outside world. Also, ICTs provide more time and resources for teachers to advice students. As an addendum to this students are easily provided more timely feedback which can enhance students advising.

It should be noted those potentials of ICTs in impacting positively on the Nigerian tertiary education can only be realised if efforts are made to provide the enabling environment for ICTs to be effective. These conditions as summarised from review of findings (Cradler & Bridgforth, nd, Lopez, 2003), and are enumerated as follows. Staff development which is individualized to the need of the teachers; technical assistance to teachers; time for teacher, to plan, learn about,

and implement technology application; long term staff development, teachers, access to ICTs; and teachers' involvement in planning, state wide, school, and classroom uses of technology.

In using ICTs, lecturers need to be competent in the use of a variety of software, particularly, software that have specific application in various disciplines. For instance, apart from word processing, data processing, spreadsheet, and so on, that are important for all lecturers, lecturers in the social sciences, statistics, education, among others, should be able to use statistical packages (e.g. SPSS) to enhance their output. Also, lecturers in the Faculty of Engineering need to be competent in the use of design packages (e.g. AutoCAD).

In the delivery of instruction, computer LCD display projector becomes relevant because the popularity of computer to generate presentation is growing daily. There is the need for tertiary institution lecturers to get prepared for professional presentation ahead of time. A lecturer must consider the following when using the LCD display projector.

1. Check the environment to ensure that all the facilities needed for the use of the projector in the environment are working and they are available for use.
Laskowski (1997) added the following:
2. Read the projector's manual on its proper operation because projectors differ.
3. Practice setting up the equipment several times. This is to ensure that the technicalities involved are mastered.
4. Set up well in advance. Allow yourself adequate time to set up the computer and the LCD projector and check any last minute details.
5. Check the LCD projector bulb life: - LCD projectors bulb or any projector bulb does have limited life. Check and make sure the bulb you will buy is not close to the end of its life.
6. Bring spare bulb and cable: - Carry spare bulb with you and make sure you know how to properly change the bulb. Use glove or cloth because hot glass looks like cold ones.
7. Check the presentation for colour combinations. Take some time to check out actual presentation for the colour combination. Some colour combinations do not match.
8. Check the font size you are using: - Inappropriate font can be debilitating for a lecture. Ensure that you use the proper text size for the distance of the farthest viewer.

ICT and Research in the Tertiary Institutions

The cliché “publish or perish“ is quite popular in the university setting. This phrase underscores the importance attached to research in any university. In fact, it is the major index of an academic staff quality and the determinant of advancement. Research is a systematic attempt to find solutions to problem or question. It may be targeted at describing events, predicting events or controlling events (WAIER, 1991). The value of ICTs cannot be over-emphasised in research design and implementation of experimental and descriptive studies, statistical analysis, data production and storage, and dissemination of research information. Colwell (2000) succinctly pointed out the potentials of ICTs in research when she noted that

“o field of research will be left untouched by the current explosion of information and information technologies. Indeed, science used to be composed of two endeavours-theory and experiment – but today it has a third component: computer simulation which links the other two (p. 6)”

ICTs can guide lecturers into new frontiers in basic and fundamental research. Specific areas of relevance of ICT to lecturers in the area of research are enumerated below. First, information and communication technologies provide opportunities for scholars to communicate with one

another through e-mail, mailing lists, newsgroups, and chat rooms. These ICT resources enable communication between scholars as they can post research, assignments, book or journal lists, and references to on-line materials. Problems and solutions can be discussed between researchers, and scholars can react to the work of others in an electronic manuscript. ICTs further provide greater opportunities for research collaboration and networking among scholars spread throughout the world, thus national and international dimensions of research issues can be studied as they can allow for communication with peers and experts around the world. Through collaborative knowledge building, studies can spotlight trans-national trend analysis through human and instrumentation collaboration.

Second, ICTs can facilitate research in any discipline as they provide quicker and easier access to more extensive and current information through digital libraries that provide digitised full-text resources to learners and researchers. Others are the electronic list – a directory of scholarly and professional e-conferences containing relevant topics and articles relevant to researchers, and electronic reference desks or virtual libraries. Others include electronic journal and catalogues and image database. Other Internet resources, gopher and CD-ROM can provide a researcher with current, in depth, firsthand information.

Thirdly, ICT can be used to do complex mathematical and statistical calculations which are important in research. They can be used for data manipulation and analysis. The ICTs will facilitate the completion of data on time, performance of statistical analysis. In fact, complex statistical analyses are not only performed instantaneously but also more accurately than possible manually.

The ICTs also provide researchers with ready avenue for the dissemination of research reports and findings. Publication outlets include e-books, e-journals or through personal web-sites. ICTs provide ready means for production of research reports. Furthermore, digital video, audio, software simulation, synchronous and asynchronous chats and interactive software, among others, bring dynamism in describing a method or reporting result (Middleton, 2000).

Conclusions

Information and communication technologies (ICTs) offer innumerable benefits in enriching the quality and quantity of learning in universities. Despite the prevalent nature of ICT in virtually every aspect of human endeavours, they have not been widely integrated into the teaching and learning process in schools. Their integration will not only revolutionise teaching in tertiary institutions, they will engender the development of students' innate scientific inquiry mind and their critical thinking abilities. Nigerian tertiary institution lecturers must be inducted to develop the needed skills in the use of ICTs and to develop positive attitude towards their use for, learning, teaching and research.

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Resources For Effective Teaching And Learning Of Integrated Science In Nigerian Secondary Schools

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Abstract

This paper was concerned with the resources that are required for effective teaching and learning of integrated science in Nigerian secondary schools. The resources include human and material resources. Human resources in this context refer to professional elites or artisans who can be called upon by the integrated science teacher to provide relevant explanation of concepts or carry out demonstrations training. Material resources include, the confined learning environment; laboratory equipment, specimens and reagents; natural environment; libraries; industries or factories. Some useful recommendations that will ensure that effective teaching and learning of integrated science takes place in Nigerian secondary schools were made.

Introduction

Effective teaching and learning of science in our educational institutions is faced with a lot of problems. This is as a result of lack of or inadequate knowledge of what science is, and what its study is out to achieve. Generally, the study of science in our schools is thought of as simply the study of biology, chemistry, physics, geography and mathematics, and the purported objectives are to train the child to get involved in science-based professions like medicine, engineering, mining, etc. With this understanding, there is yet another controversy on the right level to start the teaching of the science disciplines – Is it at the primary school level or the secondary school level? Should all the separate disciplines be taught right from the start or should some be left out? Which category of children should be exposed to science knowledge, the highly talented only or every school child? (Okwori, 2002).

With some meaningful growth in educational advancement, the contemporary Nigerian society is blessed with a crop of qualified and professionally trained science educators that have fashioned out a purposeful and productive science education programme for the country. To fully understand the basis of the science education programme recommended for use in Nigerian secondary school system, it is worthwhile delving into the meaning of science and integrated science because a teacher's concept of what science is influences not only what he teaches but how he teaches (Lankin and Wellington, 1991).

The Meaning Of Science

The word "science" can be variously defined thus:

- a) It is knowledge ascertained by observation and experiment critically tested, systematized and brought under general principles (Menkiti, 1986).
- b) It is an intellectual activity such as formulating hypothesis, designing experiments and synthesizing theories through which man seeks to understand nature (Okwori, 2002).

- c) It is the systematic study of the universe (Okwori, 2002).
- d) Science is one of mankind's attempts to gain a better understanding and clearer interpretation of ourselves the universe in which we exist (Okwori, 2002).

From the foregoing definitions, science can be seen as a body of knowledge about nature or universe. The body of knowledge, otherwise, known as product of science include the theories, laws, principles, concepts and facts which are usually represented in science textbooks like biology, chemistry, physics, biochemistry, geography, etc and made a subject of study in our schools. The process of science, on the other hand, refers to the methods of investigation in science through which the scientific knowledge is gained or ascertained. These processes include observation, hypothesizing, measuring, data collection, recording, predicting, controlling variables, inferring, generalizing, communicating, analysing and interpreting. In this paper, science can be defined as a knowledge obtained through processes of scientific investigation (Okwori, 2002)

According to Okwori (2002) the knowledge of our environment cannot be gained totally by studying only biology, chemistry or physics, because each subject discipline deals with separate aspect of our environment. He further maintains that all aspects of the environment affect our lives; therefore, the true study of nature requires an integrated approach through which the universe as a whole can be understood in a wholistic form.

What Is Integrated Science?

It is necessary to distinguish "Integrated Science" from other science disciplines like Biology, Chemistry, Physics, Biochemistry, Geography, General Science, Co-ordinated Science, Interdisciplinary Science, etc. integrated science has been distinctly defined by various authorities, thus:

- a) Integrated Science is a course, which emphasizes the fundamental unity of science place of science in the contemporary society (ICSU, 1968).
- b) Integrated Science joins subjects into a single course in which the concepts of Science are presented through a unified approach (Maduabum, 1989).
- c) It is an undifferentiated course designed to show the unity, wholeness, and inter-relationships of the separate disciplines that make up science (Maduabum, 1989).

From these definitions, the concept of integration in science tends to present the science disciplines as a course of study, which has the unique capability of providing a comprehensive knowledge of the environment in which we exist (Okwori, 2002).

In this paper, Integrated Science be can defined as a course of study which present Science disciplines in all its ramifications in a unit whole so as to appreciate the interdependence of all science disciplines (Okwori, 2002). Such knowledge is relevant for every human being as a tool for successful interaction with the environment. The knowledge provides the basic scientific literacy for all citizens to ensure the required positive adaptive behaviours in our contemporary technologically advanced society. The integrated approach also serves as a means of developing the much needed science culture in the human society and the Nigerian society is no exception.

The Importance Of Teaching Integrated Science At The Junior Secondary Education Level:

In the national education policy often referred to as the “6-3-3-4” system, a child spends six years in the primary, three in junior secondary school, three in senior secondary and four in the universities. The two-tier system of secondary education is a kind of functional education, which does not make room for dropouts. It is to ensure that during their first three years in the junior secondary, students are trained to develop manual skills through vocational training alongside with academic work. The two-tier secondary school system was launched in 1982, since it was intended to absorb the products of the universal primary education (UPE) Scheme that were to complete their six-year course in 1982.

The word, “Science” can be defined as the systematic study of nature or universe (Okwori, 2002). He further contends that no single fragment of Science—neither Biology, Physics, Chemistry, nor Geography can satisfactorily provide the full knowledge of the universe using the product or processes of science. Yet the scientific enterprise being a social service is needed by every member of the society for a successful and enjoyable life on earth.

Okwori (2002) maintains that it is unfair to present the knowledge of science in fragmented or disintegrated form to our children during their formative early years of development (Pre-adolescence stage of development) at the junior secondary education level. This is because the growing child sees the world as an entity, and develops the knowledge of its through his sensate experiences as he interacts with the environment. In addition, scientific knowledge could be seen as a mental construct, which is often referred to, as mental model, which ties together a body of experiences. It is therefore, worthwhile, according to Okwori (2002) to present the knowledge of science to youths at the junior secondary level in an undifferentiated form so that they can gain the commonality of approach to solving problems of scientific nature in their every day life.

At the junior secondary level, it is more useful to offer the child, a broad view of science, which enlightens his interest in his environment, and contribute to the steady development of his mental, manipulative and social skills (UAESCO-UNICEF, 1983). According to Asun (1983) integrated science is a course, which is trusted to grant the pre-adolescent at the junior secondary level general education and emphasizes the importance of observation for increased understanding of the environment. It introduces the students to logical thinking and the scientific methods, and arouses scientific curiosity, attitudes and skills in pre-adolescents at the junior secondary education level. Furthermore, ICSU (1968) recommended that at the earlier stages of secondary education, a totally integrated course in experimental science appears generally more desirable.

The Philosophy Of Integrated Science

The integrating principles are intended to produce a course which:

- i) Is relevant to the child’s needs and experiences;
 - ii) Stresses the fundamental unity of science;
 - iii) Lays adequate foundations for subsequent special study;
 - iv) Adds cultural dimension to science education
- (Okwori, 2002).

The Objectives Of Integrated Science

- The objectives of the course include:
- i) Developing in students the ability to carry out scientific investigations into natural phenomena, using the process skills, such as observation, recording accurately, collection of data, analysis of data, generalizing, reporting effectively, predicting, hypothesizing, classifying, measuring, designing experiments, controlling variables, testing and the likes;
 - ii) Instilling in the student a commonality of approach to problems of a scientific nature;
 - iii) Increasing students understanding of the role and function of science in every day life and the world in which they live;
 - iv) Making the students well informed and scientifically literate;
 - v) Developing the ability and scientific interest in students to work and think independently;
 - vi) Encouraging co-operation among students through group exercises, such as discussions, group assignments, field trips, etc (Okwori, 2002).

Resources For Teaching And Learning Integrated Science In Nigerian Secondary Schools

Morris (1976) defines resource as something that can be turned to for support or help. By implication resource can be any material thing or skilled individual which is readily available and can be made use of for support or help (Okwori, 2002). From this definition, two types of resources stand out. They include, human resources and material resources. In integrated science teaching and learning in Nigerian secondary schools, a resource is any person or thing that can be used by the teacher to facilitate and accelerate the teaching-learning process. In a layman's language, resources for instructional purposes are known as teaching aids, audio-visual materials or instructional materials. A teacher who can easily and skilfully acquire a resource at an appropriate time is referred to as a resourceful teacher. The resources for teaching and learning of integrated science in Nigerian secondary schools will now be treated in detail.

Human Resources:

Human resources are professional elites or artisan who can be invited by the integrated science teacher to provide appropriate explanation of concepts or carry out demonstration in science activities relating to their field of specialization. Depending on the topic to be treated, a human resource can be a laboratory technician, a science teacher, an engineer, agriculturists (all of which are professional elites) an automobile mechanic, musician, carpenter, farmer, etc (all of which are artisans) (Okwori, 2002).

Effective teaching and learning of integrated science demands the use of one human resource or the other from time to time. This is because one integrated science teacher cannot claim expertise in all areas of science. For example, for clearer understanding of the effects of narcotics and alcoholism in human beings, the services of a Medical Doctor, Biologist, or Biochemist can be employed (Okwori, 2002).

Material Resources

The material resources are the non-human resources, which can be acquired and used by integrated science teachers to facilitate and accelerate the learning of a given task. These resources include:

A) The Confined Learning Environment: This refers to the physical structure and their arrangement, which provide conducive atmosphere for effective teaching and learning of integrated science. The physical structure comprises building, seats and facilities for experiments. The integrated science does not require a separate laboratory and a classroom, but a dual purpose building structure in which both practical activities and talk chalk interactions can go on simultaneously. An ideal building structure for integrated science should be well ventilated, comprising, direct appositely located wide and low windows, two diagonally opposite exit doors for safety exit. A cool store and preparatory room, and a wide hall capable of accommodating 50-60 students at a time. Movable tables and stools can be arranged and re-arranged in different forms according to the requirements of the class or convenience for practical activity.

This type of arrangement provides opportunity for group discussions and allows pupil-pupil as well as individualized teacher-pupil interactions during the lesson (Okwori, 2002).

B) Laboratory Equipment, Specimens And Reagents:

According to Bajah (1983) and Okwori (2002) in an ideal integrated science teaching-learning situation, elaborate and sophisticated laboratory equipment are not required. All that is required at this level is to teach the students “what science is” and “how scientist work”. The basic requirements therefore, may include:

1. Measuring devices, such as Ruler, Beakers, Clocks, Spring Balance, etc.
2. Glasses such as Plane Mirror, Hand Lens, Concave and Convex Mirrors.
3. Stains such as Iodine Solution, Eosin, Methylene Blue, etc.
4. Reagents, such as Sodium Hydroxide (NaOH), Nitric Acid (HN₃O), Normal Saline, Distilled Water, etc.
5. Metals, such as Sodium, Calcium and Iron.
6. Salts, such as Calcium Carbonate, Sodium Nitrate, etc.
7. Charts that are ready-made or students-staff made showing diagrams of organisms, systems, organs, etc.
8. Models describing chemical or physical phenomena, ect.
9. Animal and Plant specimens, which are readily obtainable from immediate surroundings of the school or home.
10. Safety equipment such as fire extinguisher and first aid box.

C) Natural Environments:

One important aim of integrated science is to stimulate preadolescent’s awareness about the structure and function of the environment. Indeed, the natural environment is an important laboratory or resource material for integrated science students. Baja (1983) and Okwori (2002) maintain that natural environment can be categorized into two: -

1. The unmodified natural environment, such as, the rivers, streams, lakes, forests, hills, valleys, and atmosphere.
2. The modified natural environments, such as the zoos, games reserves, forest reserves, farm lands, plantations, fishponds, solar energy stations, etc.

D) Libraries: A library is an important resource material for both students and teachers. It is the powerhouse of an institution of learning. A rich junior library contains asserted textual materials from which scientific knowledge can be gained. In order to motivate the students using the library, information being sought for at the library should be aimed at solving a problem for the students. For example, information being sought for should help the students in their assignments (Ekpo and Usoro, 1999; Okwori, 2002).

D) Industries/Factories: Most of our personal belongings are products of one industry or the other. The cloth, shoes, radio, cars, cement, etc are factory made goods. To sharpen student's vocational and academic interest, and to increase their motivation to learn, integrated science teachers should arrange for excursions on regular basis to nearby industries so that students can see for themselves how things are manufactured (Ekpo and Usoro, 1999; Okwori, 2002).

Importance Of Resources As Teaching Aids In The Teaching And Learning Of Integrated Science:

The philosophy and objectives of integrated science teaching and learning in Nigeria demand the use of activity based method and child-centred approach. It is through these methods that the required development in students of science process skills, creative thinking ability, scientific attitudes and self-confidence can be promoted. Against this background, it negates the very objectives of introducing integrated science in our junior secondary schools if a science teacher fails to use a teaching aid in his lesson.

Robinson (1980:78) identified, among others, the following advantages of using audiovisual materials in the teaching- learning of integrated science.

- i) Create opportunities for students to learn at their own pace;
 - ii) Facilitate group and individualized instructions; and
 - iii) Create opportunities for teachers and students to improvise their own audio-visual aids.
- At this point, it must be stated that improvisation is a sine-qua-non in the teaching-learning of integrated science in our junior secondary schools. According to Maduabum (1989:33) improvisation is the act of using alternative materials or equipment obtainable from the local environment or designed and/or constructed by the teacher or with the help of local personnel to facilitate instruction. Further more, Maduabum (1989:34) identified the following reasons, among others for improvisation: -
- a) It contributes to the achievement of our educational objectives by providing opportunity to develop necessary science skills-process, attitudinal and practical skills needed to function effectively in the society as scientists, technologists and generalists.
 - b) Improvisation to some extent fills the vacuum created by lack or shortage of science equipment. This according to Okwori (2002:21) ensures the continued use of concrete materials during classroom discussions or activities rather than reliance on abstract theory.

Conclusion

It is an established fact that all the governments of the federation of Nigeria are aware of the importance of the teaching of science in our educational institutions. Since our political independence in 1960, much has been written and said about the need to industrialize the country if we wish to maintain a healthy economy. Many industries have already been established. Nigeria is blessed with valuable mineral resources, many of which are now being tapped. Unfortunately, however, the exploitation of our mineral resources and the organization and running of the industries are largely in the hands of expatriate experts and technicians. In order to reap maximum benefit from the development of our economy, it is necessary that we should intensify our efforts to lay the foundation of technological advancement through effective teaching of science and mathematics in our schools. Thus, the introduction of integrated science at the junior secondary school level in Nigerian secondary schools is a welcome development.

It must be stated here that political independence is different from economic independence. Nigerians might be able to drive cars, ride bicycles, pilot aeroplanes that are available in our country but if we are unable to manufacture these things, we will continue to be dependent on foreign powers like United States of America, Britain, Germany, France etc. Therefore, all hands must be on deck to ensure a solid foundation for technological advancement is laid for our youths at the junior secondary school level through effective teaching and learning of integrated science.

Recommendations:

In order to ensure that a solid foundation for technological advancement is laid for our youths, the underlisted recommendations are made:

1. State Governments should induce science teachers into the teaching profession by awarding scholarships to qualified candidates to study science education in Nigerian universities.
2. State Government should encourage science teachers through in-service training for higher qualifications in Nigerian Universities. Also seminars, workshops, and conferences should be organised for science teachers on regular basis so as to keep them abreast with developments in their fields of specializations.
3. Reasonable allowances should be paid to science teachers every month. This should be paid regularly and as when due.
4. State Governments should train laboratory technicians and technologists for employment in science laboratories of our secondary schools.
5. State Governments should ensure that sufficient instructional materials are supplied to our secondary schools for effective teaching and learning of science. This can be done through the establishment of educational technology centre in each state capital.

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Managing Resistance To Change In Public Primary Schools: The Case Of Universal Basic Education Implementation In Akwa Ibom State Of Nigeria

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Abstract

The Universal Basic Education (UBE) was formally launched in Nigeria in 1999. Operation of the scheme started in Akwa Ibom State in the year 2000. Five years after the take-off of the UBE scheme in the State, this survey was undertaken to determine the level of resistance posed by barriers to effective programme implementation in Uyo and Abak Local Government Areas. Findings of the study revealed that there are many factors that operate as dominant barriers to prevent effective UBE implementation in Akwa Ibom State of Nigeria. The paper concluded with suggestions to reduce the level of resistance and improve the quality of programme implementation in the state.

Background

The latest attempt by Nigeria to enhance the scope and status of its basic education was the launching of Universal Basic Education (UBE) on September 30th, 1999. As an active member of many international organizations, like the United Nations Educational, Scientific, and Cultural Organisation (UNESCO) and United Nations Organisation (UNO), Nigeria had joined her counterpart countries the world over and set target dates for developing and democratizing her primary education. Many previous attempts at democratization and universalizing of primary education in Nigeria were greeted with failure

(Eya, 2002), for instance, introduction of the Universal Primary Education (UPE) in 1955 in Western Region. The proposed Implementation Blueprint (1999) for the UBE scheme reports that Nigeria is committed to total eradication of illiteracy presently estimated at the rate of 52% of the entire population.

Implementation Blueprint (1999) has admitted that there are substantial shortcomings in Nigeria's institutional and personnel capacities for the delivery of a sound basic education for all citizens. There are also widespread disparities both in quality and access across the nation. Available infrastructural facilities, teaching and learning materials as well as qualified teachers are grossly inadequate. The Blueprint (1999) believed that for Nigeria to attain the desired 100% national literacy rate soon it is imperative that provisions be made and actions taken to universalize basic education, enthrone a conducive learning environment and improve quality and standards.

The approaches and operational strategies to be adopted for a successful implementation of the UBE scheme, according to the Blueprint (1999) shall be: enactment of necessary legislation; articulation of enabling policies; adequate funding; sensitizing and mobilizing target group and stakeholders; optimal allocation and efficient utilization of resources; adequate teacher training, recruitment and motivation; effective coordination of activities; active participation of private sector and voluntary agencies; establishment of working partnerships and collaboration with international and donor agencies; and regular supervision, monitoring and evaluation of the scheme.

The UBE scheme is an innovation which should normally pass through the stages of initiation, adoption and implementation (Bassey, 2002). Levin's Polity Model of Change (Levin, 1974) argues that educational change reflects changes in the organized society or "polity". The Nigerian society is experiencing rapid scientific and technological changes as an immediate effect of globalisation. This informs the nation's resolve to attain a 100% national literacy rate as soon as possible. Implementing the

lofty objectives of the UBE scheme can be hampered or resisted by certain factors. Havelock and Havelock (1973) have identified a number of barriers to change in a school district to include: refusal of teachers to change; confusion; shortage of funds; lack of precise information; poor communication; inadequate school facilities; inadequate qualified personnel; and poor coordination. Other sources of barrier to change are: change-oriented people not in the mainstream; discouraging policies and practices; irregular salaries; ignorance; government red tapism and erroneous logic (Bassey, 1989).

Dean (1972:31) argues that the determinants of policy implementation are numerous, complex and interrelated, and they include: the character of the policy and its demands on the executive capacity in relation to these demands; the performance of the economy; the nature of the political system and the interests of politicians. Change implementation is an essential component of the proactive/interactive change model (P/ICM). Early change-related activities, such as planning, are directed towards achieving effective implementation. Other change-related activities, such as evaluation and control, are directed towards sustaining implemented change by altering, if necessary, the way in which a change has been implemented (Zaitman, Florio & Sikorski, 1977).

The focus of this paper was to identify the forces that operate as barriers to resist effective UBE programme implementation in Akwa Iom State. Uyo and Abak local government areas (LGAs) were singled out for investigation. The two LGAs (Uyo and Abak) have the largest number of primary schools and teachers in the State (schools are 46 and 47; teachers are 1,068 and 1,003, respectively) and are contiguously located with Uyo being the State capital. Akwa Ibom State has 31 local government areas; 1,104 public primary schools; and 16,182 primary school teachers (SPEB, 2004).

Research Questions

What is the nature of resistance to change in public primary schools in Akwa Ibom State of Nigeria, as far as UBE implementation is concerned? How can these barriers be meaningfully managed?

Methodology

The population of study was 2,071 primary school teachers; while sample was 200 (9.66%) teachers (twenty schools with ten teachers randomly selected from each of the schools). The 20 primary schools were selected through the stratified random sampling approach to ensure that schools from both urban and rural areas were included in the study. The instrument for data collection was a structured questionnaire prepared by the researcher. The questionnaire had fifteen items that called for respondents' perceived level of resistance posed by the identified factors.

The questionnaire was a four-point Likert-scale with numeral values assigned as follows:

| | | |
|-------------------|---|---|
| Strongly agree | - | 4 |
| Somewhat agree | - | 3 |
| Somewhat disagree | - | 2 |
| Strongly disagree | - | 1 |

Respondents were requested to check (✓) the response that best described the perceived level of resistance posed by the listed factors. The mean of 2.50 and above was used as an acceptable mean that indicates a high level of resistance to UBE implementation; while scores below 2.50 were regarded as low resistance.

Results

There was a one hundred percent return rate of the 200 questionnaires given to respondents. The responses were scored and the means computed as shown in Table 1.

As can be seen on the table, the expected mean of 2.50 was used as the yardstick. Any mean score equal to or greater than 2.50 was considered acceptable, suggesting that the barrier was very dominant. But any one less than that was considered non dominant. From the table, eleven (11) items had their mean scores above 2.50; while only four items had their means below the 2.50 mark. These barriers were: refusal of some teachers to change; irregular monthly salaries; data unavailability; and poor coordination and control. However, the most dominant barrier with a mean score of 3.90 was poor communication; while the least dominant barrier, data unavailability, had a mean score of 2.34. The grand mean score of 3.26 implies that the UBE programme is encountering serious barriers in its implementation efforts in Akwa Ibom State.

Table 1

Mean Scores of respondents on perceived level of resistance (or barriers) against UBE implementation in Uyo and Abak Local Government Areas of Akwa Ibom State

| Barriers to UBE implementation | (N=20) | | | | Observed Mean | Expected Mean | Decision |
|--|----------------|----------------|-------------------|-------------------|---------------|---------------|----------|
| | Strongly Agree | Somewhat Agree | Somewhat Disagree | Strongly Disagree | | | |
| Do you agree that the listed items are Barriers to UBE implementation: | | | | | | | |
| 1 Poor communication | 180 | 20 | 0 | 0 | 3.90 | 2.5 | VD |
| 2 Lack of precise information on UBE. | 160 | 40 | 0 | 0 | 3.80 | 2.5 | VD |
| 3 Shortage of funds | 160 | 20 | 20 | 0 | 3.70 | 2.5 | VD |
| 4 Refusal of some teachers to change. | 16 | 74 | 93 | 16 | 2.45 | 2.5 | ND |
| 5 Shortage of qualified teachers. | 117 | 78 | 3 | 2 | 3.55 | 2.5 | VD |
| 6 Irregular monthly salaries | 23 | 62 | 93 | 22 | 2.43 | 2.5 | ND |
| 7 Data unavailability | 22 | 57 | 88 | 33 | 2.34 | 2.5 | ND |
| 8 Discouraging policies by government/Board. | 140 | 20 | 20 | 20 | 3.40 | 2.5 | VD |
| 9 Inadequate school facilities | 120 | 40 | 20 | 20 | 3.30 | 2.5 | VD |
| 10 Change-oriented people not in control | 118 | 57 | 25 | 0 | 3.34 | 2.5 | VD |
| 11 Irregular supervision of schools | 117 | 59 | 21 | 3 | 3.45 | 2.5 | VD |
| 12 Poor coordination and control | 20 | 69 | 90 | 21 | 2.44 | 2.5 | ND |
| 13 Private sector and NGOs are not helping | 178 | 2 | 20 | 0 | 3.79 | 2.5 | VD |

| | | | | | | | | |
|----|--|-----|-----|----|---|------|-----|----|
| 14 | Poor contacts with resource groups/bodies. | 178 | 2 | 20 | 0 | 3.69 | 2.5 | VD |
| 15 | Weak monitoring and evaluation of UBE implementation | 78 | 120 | 2 | 0 | 3.37 | 2.5 | VD |

Grand mean = 3.26

Discussion and Recommendations

The major actors (or participants) in the implementation process of the UBE (see Table 1) are: the government; Primary Education Board; private sector and NGOs' and subject teachers. Identified barriers therefore centre around these publics

The government is the overall manager of the resources of the land. If the government in power is keen on making the UBE implementation a success, their guiding principle will be the principle of opportunity cost. This concept says that the true cost (or opportunity cost) of what you really desire, say UBE programme implementation, is the alternative(s) forgone - that is, those other wants that you have "sacrificed" in order to have your most pressing need. It follows therefore that if politicians perceive effective implementation of the UBE scheme as a pressing need of the nation (Dean, 1972), they will allocate adequate finances towards the programme. According to Gross, Giaquinta and Bernstein (1971), lack of commitment by political leaders seems to explain the reason for shortage of funds. Federal and state governments should therefore make substantial allocations to education to guarantee effective UBE implementation.

State Primary Education Board (SPEB), which is a body Corporate with perpetual succession and a common seal, was established under the National Primary Education Commission Decree of 1988. They have the basic duty of managing the primary schools in the w[^]fe states nation-wide. The SPEB of Akwa Ibom State should wake up to its duty, as a number of the barriers seem traceable directly or indirectly to it. For instance, the issues of data unavailability and discouraging policies by Board, should be addressed. The private sector and/or NGOs should be challenged to join the boat and contribute their quota to UBE implementation.

Teachers constitute a force that cannot be outclassed when it comes to education. As a principal actor in the UBE scheme, the teacher constitutes a node which may accelerate or arrest the process of its implementation (Cole & Cole, 1967). Teachers are the people to deal directly with pupils. They should be recruited in the right numbers and quality. Akwa Ibom State with a population of 1,104 public primary schools still operates large class sizes with pupil-teacher ratio of not less than 70:1. Some schools in urban areas operate with higher pupil-teacher ratios. This picture implies more work and stress for the teacher coupled with the fact that facilities are inadequate and salaries come very late. Teachers should be motivated with improved working conditions and regular promotions.

Conclusion

The federal Nigerian government has resolved to radically eradicate illiteracy from its borders in the shortest possible time, and by the year 2010 set the nation afloat on science and technology platform. This national dream can only come to fruition if the government of the day is committed and the politicians cease paying lip service to the UBE scheme. State Primary Education Board (SPEB) should be better positioned to make the UBE implementation a huge success; while teachers must wake up from slumber, the private sector, especially banks and companies, and NGOs should arise to the clarion call for partnership in prosecuting this lofty educational project. Universal Basic Education (UBE) is a task that must not fail.

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Relationship between Orientation to Teaching and Academic Performance of Pre-service student teachers

By

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Introduction

Although the teaching profession is the bedrock of all other professions, it seems to have difficulty attracting bright students with appropriate disposition to teaching. Reasons cited in the literature include, among others, unattractive working conditions and fringe benefits, low salaries, stress (McGraw, 2003; Manuel 2003; Gold, 1996; Hardy, 1999; Ramsey, 2000). According to the American Federation of Teachers, the average annual teacher salary in 2000 to 2001 was \$43,250 compared with \$52,664 for mid-level accounts (Podgursky, 2003). Computer systems analysts, engineers, and attorneys earned \$71,155, \$74,920, and \$82,712, respectively. Whereas a degreed teacher on average earned E58, 232 (US\$8,319) per year in Swaziland in 2004, a water engineer, an accountant and an economic planner on average earned not less than E176, 144 (US\$24,877) per year (Ministry of Public Service and Information, 2003).

Apart from the fact that salary packages, conditions of service, and fringe benefits, teaching is regarded to be very stressful, especially among beginning teachers (Chan, 2002; Kyriacou, 1987; Downing, 1998; Herbert & Worthy, 2001; Nagel & Brown, 2003). The British tabloids described teaching, for example, as a beleaguered profession “operating under eroding disciplinary standards” (Priyadharshini & Robinson-Pant, 2003: 1). Borg’s (1990) and Borg and Riding (1991) studies found that one third of the teachers reported that teaching was indeed a highly stressful profession.

Perhaps, the above factors explain the shortage of science and mathematics teachers throughout the world. A study of the supply and demand of science teachers in the United States in 1992 found that the shortage of science teachers for physics was 61%, followed by chemistry at 33%, and earth sciences at 31% (Hudson, 1996). This is unfortunate considering that there is a strong relationship between a country’s economic strength and its level of scientific and technological development (Hassan & Treagust, 2003); and well-qualified and committed teachers and student achievement (Heyneman & Loxley, 1983; Invargarson, 1998; Darling-Hammond, 2001; National Commission on Teaching and America’s Future, 1996).

The factors associated with teaching stress among beginning teachers included lack of planning; time management; poor relationships with principals, other teachers and students; inability to handle large classes; inadequate resources; heavy teaching load; student indiscipline; inability to adapt to change; role ambiguity and conflict (Borg, 1990; Borg and Riding, 1991; Greenberg; 1984; Downing, 1998; Herbert & Worthy, 2001; Nagel & Brown, 2003). Ramsey’s (2000) study found that schools often allocated new teachers the most difficult classes. In some cases, new teachers taught outside their areas of subject specialization with little guidance and encouragement from experienced teachers.

Research indicates that many beginning teachers are the first ones to quit the teaching profession because of the stressful nature of teaching (McGraw, 2002; Johnson, 2001). Greenberg’s (1984) study, for example, found that one-third of the teachers surveyed claimed that they would not choose teaching if they had an opportunity to choose again. Similarly,

Darling-Hammond's (2001) study reported that 30% of novice teachers exited from the teaching profession prior to their fifth year in teaching.

Despite the stressful nature of the teaching profession, low salary packages, poor conditions of service, and unattractive fringe benefits, individuals continue to enroll in teacher education programmes. In Swaziland, the Ministry of Education indicated that there was an over-supply of secondary/high schoolteachers in the arts subjects such as history, languages, and social studies (Ministry of Education, 2004). One would have thought that if there is an over-supply of teachers in secondary/high schools in Swaziland; if teaching is a stressful profession; if the salary packages, conditions of service, and fringe benefits are not competitive compared to the other professions in the teaching profession, why do individuals still continue to pursue the teaching profession, especially in the social subjects? What are the possible explanatory factors that influence them to choose teaching as a profession? Is it because they have a calling for teaching? Are they attracted to the teaching profession because of the salary packages and conditions of services? Is it because they have no other career option but to pursue the teaching profession? Is it because of family pressures, flexible working hours, and the school holidays? Is it because the teaching profession fits very well with family commitments?

The purpose of the study was to determine:

- (i) the profile of the pre-service college teacher¹ enrolled in the Primary Teachers Diploma (PTD) programme in a teacher training college in Swaziland;
- (ii) reasons for pre-service college teacher to choose the teaching profession as their career;
- (iii) academic performance of the pre-service student teachers;
- (iv) the relationship between pre-service college teacher' orientation to teaching and their academic performance;

The objectives of this study were to determine:

- (v) the profile of the pre-service college teacher enrolled in the Primary Teachers Diploma (PTD) programme in a teacher training college in Swaziland;
- (vi) reasons for pre-service college teacher to choose the teaching profession as their career;
- (vii) the academic performance of the pre-service student teachers by their background characteristics; and
- (viii) the relationship between pre-service college teacher' orientation to teaching and their academic performance;

The first assumption of this study were that individuals enroll educational programmes because of certain reasons. The second assumption of this study was that the reasons for pre-service student teachers to enroll in the PTD were that: (i) they liked teaching; (ii) they had no other option but to pursue the teaching profession; (iii) they was pressure from family members to pursue the teaching profession; (iv) the teaching profession has flexible working hours and holidays²; (v) the fit between family commitments and the teaching profession and; (vi) the salary packages and conditions of service were reasonable. The third assumption of this study was that a relationship existed between the academic performance of the pre-service student teachers' orientation to teaching and their academic performance.

¹ In this study pre-service student teachers is used to refer to prospective teachers who are still undergoing training in a teacher training college.

² There are three blocks of school holidays in Swaziland: April, August, and December/January. April and August holidays are about three weeks. The December/January holidays are about eight weeks.

Methodology

The research design for this study was a descriptive survey. The target population of this study were 147 pre-service student teachers in a teacher training college of which 109 were females and 38 were males. The age of the 147 pre-service student teachers ranged between 20 and 34 years. In terms of marital status, 138 were single and 9 were married. The instrument for data collection was a questionnaire adapted from Dinham and Scott's (2000) orientation to teaching scale.

The instrument had ten items. Examples of the items included "I always wanted to become a teacher"; "Teaching was not my first choice"; "I chose teaching because I had no other options"; "I was attracted to teaching because of the school holiday"; "I was attracted to teaching because of the salary package". The instrument asked pre-service student teachers to indicate, on a 6-scale Likert-type scale, the extent to which the ten items were "true" or "false" regarding reasons why they chose the teaching profession as a career. The ten items were first piloted to few pre-service student teachers. Reliability coefficient of the ten items was .6267 (F-value of 35.6488; $P > .000$). The instrument was administered to the pre-service student teachers during a regular class. Academic performance was defined as the overall average composite score of a pre-service college teacher. The scores were accessed from the records of one of the researchers who were teaching the pre-service student teachers. Data collected by the instrument and from the pre-service student teachers were analyzed using the SPSS package. The findings of the study are presented in the following section.

Findings

Background characteristics of the pre-service student teachers

The first research question was to determine the background characteristics of the pre-service student teachers who participated in this study. Table 1 summarizes the results of the analysis of the data capturing the background characteristics of the pre-service student teachers in terms of their age, gender, marital status, and year of study.

Table 1: Background characteristics of the pre-service student teachers

| <i>Variable</i> | <i>N (%)</i> | <i>Observed</i> | <i>Expected</i> | <i>Chi-Square</i> | <i>DF</i> | <i>Sig.</i> |
|-----------------------|--------------|-----------------|-----------------|-------------------|-----------|-------------|
| <u>Age (Years)</u> | | | | | | |
| 20-24 | 83 (56%) | 83 | 36.8 | 122.034 | 2 | .000 |
| 25-29 | 54 (37%) | 54 | 36.8 | | | |
| 30-34 | 11 (7%) | 11 | 36.8 | | | |
| Total | 147 (100%) | | | | | |
| <u>Gender</u> | | | | | | |
| Male | 38 (26%) | 38 | 75.5 | 34.293 | 1 | .000 |
| Female | 109 (74%) | 109 | 75.5 | | | |
| Total | 147 (100%) | | | | | |
| <u>Marital Status</u> | | | | | | |
| Single | 138 (94%) | 138 | 48.7 | 241.000 | 1 | .000 |
| Married | 9 (6%) | 9 | 48.7 | | | |
| Total | 147 (100%) | | | | | |
| <u>Year of Study</u> | | | | | | |
| Year 1 | 2 (1%) | 2 | 49 | 68.857 | 2 | .000 |
| Year 2 | 78 (53%) | 78 | 49 | | | |
| Year 3 | 67 (46%) | 67 | 49 | | | |

| | | | | | | |
|-------|------------|--|--|--|--|--|
| Total | 147 (100%) | | | | | |
|-------|------------|--|--|--|--|--|

Table indicates that the pre-service teachers who participated in this study were below 35 years. Specifically, Table 1 shows that of the 147 pre-service student teachers, the majority were less than 24 years (56%), followed by those who were between 25 and 29 years (37%) and 30 to 34 years (7%). In terms of gender, of the 147 pre-service student teachers, a significant majority of them were females (74%). Slightly over one-quarter were female. Most of the 147 pre-service student teachers were singled (94%). Only 9 (6%) were married.

In terms of the year of study, most of the 147 pre-service teachers were in year two (53%) of the three-year diploma in teacher education programme. Sixty-seven (46%) of the 147 pre-service teachers were in year three of the teacher education programme. Only two pre-service student teachers were in their first year. In summary, the majority of the 147 pre-service student teachers were relatively young, female, single, and in their year two of the three-year programme in teacher education.

Reasons for choosing teaching as a career

The second research question of this study was to determine reasons why the 147 pre service teachers choose teaching as their career. To determine the reasons for choosing teaching as a career, ten statements depicting possible reasons for individuals to choose teaching as a career were given to the 147 pre-service student teachers to rate in a six Likert-type scale ranging from absolutely not true (1) to absolutely true (6). Table 2 indicates the results of the analysis of the 147 pre-service student teachers' responses to the ten statements. For ease of interpretation, a mean score within 1.00 - 1.50 was interpreted as "not true"; within the range 1.51 - 2.50 as "somehow not true"; within the range 2.51 - 3.50 as "somehow true"; and within the range 3.51 - 4.50 as "true".

Table 2: Reasons why pre-service student teachers choose teaching as their career

| Statements | N | Mean | STD |
|--|-----|------|------|
| 1. I always wanted to become a teacher. | 147 | 3.80 | 1.46 |
| 2. Teaching was not my first choice. | 147 | 3.50 | 1.81 |
| 3. I chose teaching because I had no other options. | 147 | 2.40 | 1.46 |
| 4. There was pressure from my family to choose teaching. | 147 | 1.95 | 1.35 |
| 5. I was attracted to teaching because of the school holiday. | 147 | 2.16 | 1.33 |
| 6. I thought it would fit well with my family commitments. | 147 | 2.47 | 1.41 |
| 7. I was attracted to teaching because of the salary package. | 147 | 1.82 | 1.05 |
| 8. I was attracted to teaching because of the conditions of service. | 147 | 2.90 | 1.39 |
| 9. I chose teaching because of other opportunities. | 147 | 3.59 | 1.60 |
| 10. Given an opportunity, I would drop teaching immediately. | 147 | 3.35 | 1.78 |

Scale: *absolutely not true = 1; not true = 2, somehow not true = 3; somehow true 4; true = 5; absolutely true = 6.*

Interpretation of the mean scores: *1.00 - 1.50 = "not true"; 1.51 - 2.50 = "somewhat not true"; 2.51 - 3.50 = "somewhat true"; 3.51 - 4.50 = "true"*

Using the interpretation framework indicated above, Table 2 indicates that of the ten statements rate on reasons for choosing teaching as a career, half (50%) were rated by the 147 pre-service teachers to be "true" and another half (50%) were rate by the 147 pre-service student teachers to be "not true". Of the five statements that were rated by the 147 pre-service teachers to be "true",

four were rated as “absolutely true”. The four statements were: I always wanted to become a teacher (mean score = 3.8); teaching was not my first choice (mean score = 3.5); I chose teaching because of other opportunities (mean score = 3.59); given an opportunity, I would drop teaching immediately (mean score = 3.59); The only statement that was rated by the 147 pre-service teachers to be “somewhat true” was, ‘I was attracted to teaching because of the conditions of service’ (mean score = 2.90),

Of the five statements that were rated by the 147 pre-service student teachers to be “not true”, three were rated “somewhat not true”. These were (i) I chose teaching because I had no other options (mean score = 2.4); (ii) I was attracted to teaching because of the school holiday (mean score = 2.16); and (iii) I thought it would fit well with my family commitments (mean score = 2.47). The two statements that were rated by the 147 pre-service student teachers to be “absolutely not true” were (i) There was pressure from my family to choose teaching (mean score = 1.95); and (ii) I was attracted to teaching because of the salary package (mean score = 1.82).

In summary, the 147 pre-service student teachers were of the view that it was “true” that they chose teaching because they wanted to become teachers. However, teaching was not their first choice. The reason they opted for teaching was that it would open other opportunities; and teaching had reasonable conditions of service. However, given an opportunity they would immediately drop teaching. On the other, the 147 pre-service student teachers were of the view that it was “not true” that they chose teaching because (i) they had no other options, (ii) of the school holidays, (iii) family pressure, (iv) teaching would fit well with family commitments, and (v) good salary package.

Academic performance of the pre-service student teachers

Third objective of this study was to determine the academic performance of the 147 pre-service student teachers as well as the relationship between the background variables of the pre-service student teachers and academic performance. Data for this objective was sourced from the overall end-of-year composite mark in percentages. The overall end-of-year composite marks for the 147 pre-service student teachers ranged from 50% to 70%. For purposes of classification, the Teacher Training College classified the overall end-of-year composite marks into three categories: (i) 50%-59% = pass; (ii) 60-69% = credit; and (iii) 70%+ = distinction. Table 3 indicates the results of the analysis of the overall end-of-year composite marks of the 147 pre-service teachers as the relationship between the background variables of the pre-service student teachers and academic performance.

Table 3 indicates that overall, the majority 54%) of the 147 pre-service student teachers’ overall end-of –the-year grades were within the *credit* range (i.e. 60-69). Sixty-four (44%) of the 147 pre-service student teachers’ overall end-of –the-year grades were within the pass range (i.e. 50-59); and only three (2%) of the 147 pre-service student teachers’ overall end-of –the-year grades were within the *distinction* range (i.e. 70 and above).

Table 3: Academic performance of the 147 pre-service student teachers by background characteristics

| <i>Variable</i> | 50-59 (%) Pass | 60-69 (%) Credit | 70+ (%) Distinction | Chi-Square | DF | Sig. |
|--------------------|-------------------|---------------------|------------------------|------------|----|------|
| <u>Overall</u> | 64 (44%) | 80 (54%) | 3 (2%) | | | |
| <u>Age (Years)</u> | | | | | | |

| | | | | | | |
|-----------------------|----------|----------|--------|--------|---|------|
| 20-24 | 32 (39%) | 48 (57%) | 3 (4%) | 5.592 | 6 | .429 |
| 25-29 | 28 (52%) | 26 (48%) | 0 (0%) | | | |
| 30-34 | 4 (40%) | 6 (60%) | 0 (0%) | | | |
| <u>Gender</u> | | | | .445 | 2 | .801 |
| Male | 18 (47%) | 19 (50%) | 1 (3%) | | | |
| Female | 46 (42%) | 61 (56%) | 2 (2%) | | | |
| <u>Marital Status</u> | | | | 1.119 | 2 | .891 |
| Single | 60 (44%) | 74 (54%) | 3 (2%) | | | |
| Married | 4 (50%) | 4 (50%) | 3 (2%) | | | |
| <u>Year of Study</u> | | | | 10.279 | 3 | 0.36 |
| Year 1 | 2 (100%) | 0 (0%) | 0 (0%) | | | |
| Year 2 | 40 (51%) | 38 (49%) | 0 (0%) | | | |
| Year 3 | 22 (33%) | 42 (63%) | 3 (4%) | | | |

NB: 50-59 = Pass; 60-69 = Credit; 70+ = Distinction

In terms of the relationship between the age and academic performance, younger pre-service student teachers tended to perform better than older pre-service student teachers did. Table 3, for example, shows that out of the 83 pre-service student teachers whose age range was within 20-24 range, 32 (39%) performed within the pass range, 48 (57%) performed within the *credit* range (i.e. 60-69), and 3 (4%) performed within the *distinction* range. On the other hand, out of the 54 pre-service student teachers whose age was within the 25-29 range, 28 (52%), 26 (48%) performed within the *credit* range, and none performed within the *distinction* range. The observed relationship between the age and academic performance was negatively related but not statistically significant.

In terms of the relationship between gender and academic performance, Table 3 indicates that overall, female pre-service student teachers tended to perform better than male pre-service student teachers did. Table 3, for example, shows that out of the 38 male pre-service student teachers, 18 (47%) performed within the *pass* range, 19 (50%) performed within the *credit* range, and one (3%) performed within the *distinction* range. On the other hand, out of the 109 female pre-service student teachers, 46 (42%), 61 (56%) performed within the *credit* range, and two (2%) performed within the *distinction* range. The observed relationship between gender and academic performance was positive but not statistically significant.

Regarding the relationship between marital status and academic performance, Table 3 indicates that single pre-service student teachers tended to performance better than married pre-service student teachers did. For example, whereas 74 (54%) single pre-service student teachers performed within the *credit* range classification, 4 (50%) married pre-service student teachers performed within the *credit* range classification. On the other hand, whereas 60 (44%) of the single pre-service student teachers performed within the pass range classification, 4 (50%) married pre-service student teachers performed within the pass range classification. The observed relationship between marital status and academic performance was positively related but not statistically significant.

Concerning the relationship between the year of study and academic performance, pre-service student teachers in their third year tended to perform better than teachers did in their first and second years of the primary teacher education diploma in education programme. For example,

whereas 42 (63%) of the third year pre-service student teachers performed within the *credit* range, 38 (49%) of the third year pre-service student teachers perform within the *credit* range. On the other hand, whereas 22 (33%) of the third year pre-service student teachers perform within the pass range, 40 (51%) of the third year pre-service student teachers performed within the *credit* range. The observed relationship between the year of study of pre-service student teachers and academic performance was *positively* and *statistically* significant.

In summary, younger pre-service student teachers tended to perform better than older pre-service student teachers did. Female pre-service student teachers tended to perform better than male pre-service student teachers did. Single pre-service student teachers tended to perform better than married pre-service student teachers did. Pre-service student teachers in their third year tended to perform better than teachers did in their first and second years of the primary teacher education diploma in education programme.

Relationship between pre-service student teachers’ orientation to teaching and academic performance

The fourth objective of this study was to explore relationships between the ten statements depicting the orientation of the 147 pre-service student teachers to teaching and academic performance. Table 4 indicates the results of the analysis.

Table 4: Relationship between pre-service student teachers’ orientation to teaching and academic performance

| Statements | Academic Performance |
|--|----------------------|
| 1. I always wanted to become a teacher. | .126 |
| 2. Teaching was not my first choice. | -.097 |
| 3. I chose teaching because I had no other options. | .009 |
| 4. There was pressure from my family to choose teaching. | -.003 |
| 5. I was attracted to teaching because of the school holiday. | .034 |
| 6. I thought it would fit well with my family commitments. | -.031 |
| 7. I was attracted to teaching because of the salary package. | .112 |
| 8. I was attracted to teaching because of the conditions of service. | -.026 |
| 9. I chose teaching because of other opportunities. | -.087 |
| 10. Given an opportunity, I would drop teaching immediately. | .052 |

NB: The correlation coefficients in Table were not statistically significant.

First, a careful look at Table 4 indicates that the relationships between the ten statements and academic performance of the 147 pre-service student teachers were either *positive* or *negative*. Second, the correlation coefficients were not *statistically* significant.

The five statements that had positive relationships with academic performance were: (i) I always wanted to become a teacher ($r = .126$); (ii) I chose teaching because I had no other options ($r = .009$); (iii) I was attracted to teaching because of the school holidays ($r = .034$); (iv) I was attracted to teaching because of the salary package ($r = .112$); and (v) Given an opportunity I would drop teaching immediately ($r = .052$).

The other five statements that had *negative* relationships with academic performance included: (i) Teaching was not my first choice ($r = -.097$); (ii) There was pressure from my family to choose teaching ($r = -.003$); (iii) I thought it would fit well with my family commitments ($r = -$

.031); (iv) I was attracted to teaching because of the conditions of service ($r = -.026$); and (v) I chose teaching because of other opportunities ($r = -.087$).

The *positive* relationships between the five statements and academic performance implied that pre-service student teachers who said (i) they wanted to be teachers, (ii) they had no other career options, (iii) they liked the school holidays, (iv) they liked the salary packages, and (v) given an opportunity they would drop teaching *tended* to perform better academically than those who said the opposite view in these five statements.

The *negative* relationships between the five statements and academic performance implied that pre-service student teachers who said that (i) teaching was not their first choice, (ii) there was pressure from their family to choose teaching, (iii) they thought teaching would fit well with their family commitments, (iv) they were attracted to teaching because of the conditions of service, and (v)) they were attracted to teaching because of the other opportunities *tended* to perform poorly than those who said the opposite view in these five statements.

In summary, it would appear that pre-service student teachers who had a *positive attitude* towards the teaching profession tended to perform better than those who had a *negative attitude* towards the teaching profession. However, these tendencies were statistically insignificant and therefore not conclusion.

Discussion

That this study found that the majority of the 147 pre-service student teachers were relatively young, female, single, and in their year two of the three-year programme in teacher education was not a surprise. Most students graduate from high school at the age of 18 or 19 years. They enroll in teacher training colleges at the age of 20 years. Invariably, they are likely to be single. The proportion of female primary teachers at the national is also about three-quarters. The pertinent question that arises is why such a large proportion of female pre-service student teachers considering that there is no deliberate exclusion policy for male applicants to train as primary teachers in training colleges. There is need to inquire into possible reasons for the high proportion of female teachers not only in primary teacher training colleges but also in primary schools.

The second interesting finding of this study was that although pre-service student teachers wanted to become teachers, teaching was not their first choice. Initially, they wanted to pursue other careers. However, for some reason, they found themselves pursuing the teaching profession. Pre-service student teachers denied that school holidays, family pressure, family commitments, and reasonable salary package attracted them into the teaching profession. None of these factors that attracted into the teaching profession. However, pre-service student teachers had hoped that the teaching profession would open up other opportunities. Unfortunately, this hope does not seem to become a reality. This perhaps explains why most of them indicated that given an opportunity, they would drop teaching. This study, unfortunately, did not ask pre-service student teachers the type of career they had wanted before opting for the teaching profession. It would be interesting to find out the initial “dream” careers of the pre-service teachers.

The third interesting finding of this study was that younger pre-service student teachers tended to perform better than older pre-service student teachers did. Female pre-service student teachers tended to perform better than male pre-service student teachers did. Single pre-service student teachers tended to performance better than married pre-service student teachers did.

Pre-service student teachers in their third year tended to perform better than pre-service student teachers did in their first year. This raises a number of questions. For example, why did younger pre-service student teachers performed better than older pre-service student teachers? Why did female pre-service student teachers performed better than male pre-service student teachers? Was it because younger pre-service student teachers had more time to concentrate and attend to their studies due to the fact that they were single and had less family commitment than older and married pre-service student teachers?

That pre-service student teachers who had a *positive attitude* towards the teaching profession tended to perform better than those who had a *negative attitude* towards the teaching profession is perhaps not surprising. Clearly, if one has positive attitude towards something, one is likely to succeed. Similarly, if one has a negative attitude towards something, one is likely to fail. This is logic of self-fulfilling prophesy. The reader is, however, cautioned to interpret this findings were care. The observed correlation coefficients between the background characteristics of the pre-service student teachers and their academic performance, for example, were *not* statistically significant. Further research is needed to explore these relationships, perhaps this time not using aggregate data for academic performance.

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An Investigative Study Of Innovation And Reform In The Education System Of The Kingdom Of Lesotho

The Summary Of A Dissertation Project By

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Abstract

The study investigated reforms and innovations in the education system of the Kingdom of Lesotho limited specifically in content to the secondary school system. The problem for the investigation centred on the ability of secondary school learners to acquire basic, functional, practical, applicable and relevant manual skills-based Secondary school education with the aim of getting either employed or self-employed on completion of secondary school if further education is not pursued.

The study took the form of survey through literature review, the use of questionnaires, structured interview questions and observation among others. Respondents were made up of nine population groups who are the stakeholders as providers and recipients of the educational services. Included were the Minister of Education, the Director of the National Curriculum Development Centre [NCDC], the education secretaries of the government and the mission schools secretariats, principals, teachers, secondary school learners, parents, secondary school graduates and the general public.

Three research methods – qualitative, quantitative and participatory action – were blended to complement each other and were used where applicable.

The major findings were grouped under four main headings: curriculum reform and innovation, infrastructure availability and provision, teacher recruitment, training and retraining of teachers and institutional reform and innovation at system level. However, there were unanticipated findings that were relevant and were included.

The conclusion that could be drawn was that the Lesotho education system has problems which hold both universal and local implications. The universal implications were that some of the problems, e.g. shortage of qualified and experienced teachers, lack of relevant infrastructure including classrooms and equipment, are characteristics of all education systems world wide. The local implications pertain to specific provisions and applications of the education system to benefit secondary school graduates who terminate at the end of their secondary education.

The suggested recommendations as panaceas to help address some of the problems lie in the critical study of successful case studies to be able to apply those strategies that could be applicable, relevant and cost effective considering the Lesotho situation. This, the researcher believes, will help the Kingdom of Lesotho to resolve the problem of secondary school graduates wastage.

BACKGROUND TO THE STUDY

Every society educates its youth. From both the traditional and modern perspectives education serves society in a variety of ways. In both the functional and responsibility levels, education does four major services to society.

- The development of the personality
- Equipping individuals with knowledge and skills
- The development of attitudes and awareness
- The development of creativity to help bring about changes in society

In short, education is an instrument of social change. All traditional African societies, like the Kingdom of Lesotho, had their own education identities long before they were exposed to the European formal education influences. Generally, a pattern of culture and education were firmly established. The learning of children and the youth was informally oriented towards the practical activities in the home, on the farms, in the grazing fields or in the various workshops where implements were designed and produced. Education was compulsory and free. It was the responsibility of every community to educate its youth in the traditional and cultural norms that were held in high esteem. The homes, the workshops, the farms and fields, the kitchens, the queens', kings' and chiefs' palaces were all used as classrooms. The graduates from the traditional basotho institutions readily got employed due to the practical, relevant and applicable nature of the life skills acquired while in training.

The curricula reflected largely on the needs of society and emphasised the training of specific skills that were required for the sustenance of the basotho society. For instance, if war was eminent, most male youth and able men were conscripted into the army to be trained to defend the nation. Once the war was over most skills training concentrated on the aesthetic nature of the basotho like weaving, crafts, decoration, bead-making and beauty tactics, especially among the women.

This brief sketch does not in any way suggest a wholesale return to the traditional basotho education system. The basotho society today is modern, diverse and completely different in terms of needs, development and technology as compared to the days described above. However, some aspects of the traditional basotho education system need careful reflection when modern secondary school curricula are discussed. For instance, the importance attached to the acquisition of practical, functional, relevant and applicable life skills, the passing of both the practical and oral examinations, the emphasis placed on the knowledge of ancestral history and the respect of one's cultural and traditional norms during initiation into adulthood need to be considered.

In sum, the traditional basotho education system has something to offer the modern education system. A reflection on the characteristics and fusion of those relevant and applicable principles into modern secondary school curricula might help to curb the secondary school graduates wastage SADC Report on education and training for employment (1989:27-32].

Statement Of The Problem

Do innovations and reforms in secondary schools in Lesotho provide sufficient practical, functional, applicable and relevant manual basic life skills training which will equip pupils for living after school?

Research Questions

1. Why has the education system in Lesotho been unable to equip secondary school pupils with practical, applicable, functional and manual skills-based training to eliminate wastage among secondary school graduates?
2. Can reforms and innovations improve the present secondary education provision in practice in Lesotho if the government does not implement recommendations in reports submitted by task forces and commissions set up by the government?
3. Why has the government not implemented recommendations in reports submitted between 1968 and 1996?
4. What should be done to reverse secondary school graduates wastage?

The Aims Of The Study

In the Kingdom of Lesotho many learners terminate after their secondary education due to problems beyond their control. The turnout of secondary school graduates without relevant and applicable skills to sell to prospective employers has contributed to mass unemployment among secondary school graduates in Lesotho.

Apart from the main research questions, the following were also investigated in the study.

- To trace the developmental history of the Lesotho education system with special reference to the secondary schools in order to identify the problems that had hindered the provision of practical, functional, applicable manual skills-based secondary education to equip learners with skills for living.
- To study and investigate reforms and innovations that have been undertaken between 1960 and 1996.
- To establish through the instruments identified for the study whether secondary schools should provide practical, functional, applicable manual skills-based secondary education to equip pupils with living skills.
- To recommend tried and tested strategies from successful case studies of educational reforms and innovations to help the Lesotho Government to restructure the secondary education system to address the problem of secondary school graduates wastage.

Methodology

The study was guided by the scientific approach and fulfilled the basic requirements of science inquiry in the following ways:

- It confronted the social world being studied directly, for instance, the researcher has come to grips with social reality pertaining to the research problem through prolonged

and intimate participation as a teacher rather than adhering to just scientific protocols without being part of the system.

- It established relations between categories of data required to complete the study as stated in the abstract.
- Applicable and relevant propositions were formulated around the relations in the study and investigated further as indicated in the research questions.
- The propositions were then organised into analytical schema as was done in the treatment, analysis and interpretation of the collected data.
- The testing of questions, data relations, propositions and analysis took place through the examination of the social world – that is the secondary education system in Lesotho.

As identified right from the beginning, the methodological paradigms – qualitative, quantitative and participatory action are not merely collections of research methods. For the purpose of this study, they include certain assumptions and values regarding their use under specific circumstances. In this study the researcher encountered both the actual methods and the underlying philosophy regarding the use of each method. These included the theory of when and why to apply quantitative rather than qualitative method and the awareness of the limitations of equally applicable methods.

The implication in this respect was that qualitative, quantitative and participatory action research methods were used because they complemented each other. For instance where data were required to be quantified, the quantitative method was applied especially when treating questionnaire and interview responses for analysis and interpretation and vice versa. During the analysis and the interpretation of data, the qualitative method was applied.

The Participatory Action Research Perspective

Since participatory action research method is self-reflective inquiry in social situations it helped to improve the rationality and justice of the social and educational practices, understanding them and the situations in which they were carried out. Since the study was to find out about the opinion of the basotho about the current secondary education provision, it was necessary to involve the general public in a participatory manner through ‘pitsos’ [local community gathering at the chief’s palace], direct intervention [interview] and questionnaire.

Participatory action research as applied in this study supported and contributed to the effort of individuals, groups and movements that challenge social inequality and work to eliminate exploitation [Participatory Research 1982:1]. It plays a liberating role in the learning process by providing the development of critical understanding of the social problems, their structural causes and possibilities for overcoming them. It calls for democratic interaction between the researcher and those among whom the research is conducted. The democratic interaction depends on the political participation of those involved in conducting research on the causes of their exploitation with the objective of overcoming the exploitation. In this study secondary school graduates have been exploited and then abandoned leaving them at the mercy of the exploiters for further exploitation.

Participatory action research is composed of three inter-related processes. These are:

- The collective investigation of problems and issues with the active participation of the constituency in the entire process.

- The collective analysis in which the constituency develops a better understanding not only of the structural causes – socio-economic, political, cultural, historical – of the problem.
- The collective action by the constituency aimed at long-term as well as short-term solutions of these problems.

These three processes are inseparable. Their integration gives participatory action research its fundamental strength and power. Processes most closely related to investigation, analysis or action can be identified separately in any participatory action research study or activity; but each process incorporates aspects of the others. Above all, participatory action research is a learning process for those involved as will be seen later. The process begins with people's concrete experience and situation and moves to include both theoretical analysis and action aimed at change. Critical evaluation of the success or failure of action also deepens awareness of the concrete reality that people face.

Participatory action research is an educational approach to social change. However, it is not a recipe for social change. Rather it is a democratic approach to investigation and learning to be taken by individuals, groups and movements as a tool aimed at social change. As related to this study, the following questions were answered to place this very method into clear perspective as to why it was chosen. The questions are the following:

1. Who are the participants?
2. Why should they participate in the study?
3. How would they participate?
4. Who has to learn?
5. What has to be learned?
6. Why should they learn what they have to learn?
7. How would they participate in the learning process?

1. **Who are the participants?** The participants included all the stakeholders in the provision of secondary school education in the Kingdom of Lesotho and all the recipients.
2. **Why should they participate in the study?** Metaphorically, "nobody takes in medication for a sick person". In other words, it is the sick person who needs the medication to get better. In this investigative study, it is the basotho public who need solutions to their problems regarding secondary school graduate wastage; and therefore it should be their responsibility to find solutions. By participating in the study, they would be able to make inputs and share the derived benefits from the contributions that they would make.
3. **How would they participate?** There are various ways the people could be brought on board to achieve collective participation in the study. These include social structures like associations, civics, committees and other organizations within the society, the traditional leadership, the youth groups, churches, and "pitsos".
4. **Who has to learn?** Right from the start all the participants would collectively learn from the various means through which data would be collected. The learning will be practical involving all the participants and whatever is discovered through the process will be collaborative expression of interest and solutions to the problem being investigated.
5. **What has to be learned?** All participants will learn a lot. Firstly, they would learn how to identify problems that confront them. Secondly, they would learn

how to investigate the causes of the problems and thirdly they would learn how to identify and apply possible solutions to the identified problems. Since the learning will be practical, participative and a learning experience, participants will be empowered educationally.

6. **Why should they learn what they have to learn?** As members of society, the need to learn is obvious. The simple answer that can be provided is that, they need to find and work out solutions to their problems.
7. **How would they participate in the learning process?** All the participants would be fully oriented and engaged. They would be required to make specific inputs. For instance some of the participants would be made to devise possible topics and subjects significant for inclusion in the new secondary school curricula based on practical, functional, applicable and relevant manual skills-based secondary school education. Through this process all participants will be learning through participation.

The strengths and characteristics of participatory action research are:

- A critical analysis is encouraged throughout the research process and not just at the beginning or termination.
- The approach encourages active involvement on the part of all participants.
- It is positive in initiating and helping to bring about change and improvement.
- By either using the field or the classroom or both as the study environment, the natural behaviour of participants is accommodated.
- As a research framework, it is flexible and adaptable.
- It describes relationships as they develop over time and accommodates changes in thinking which reflect mutations occurring in the context of the study [Boaduo 1988:20-25].

In sum, participatory action research helps the researcher to address practical problems with theoretical relevance and transfers the knowledge from the research findings to the participants [McNiff 1995:57-85; Clark 1972:23]

Sampling And Population Selection

Two sampling techniques were used, namely systematic and random. The systematic sampling was used to select some of the population by virtue of their position. The Minister of Education, the head of the National Curriculum Development Centre, the secretaries of the nine missions and the principals of the ten randomly selected secondary schools from the ten districts of Lesotho were systematically selected due to the positions that they hold. Ten pupils and ten teachers and from the public ten secondary school graduates from each of the ten districts and nine volunteers each from the ten districts were randomly selected making a total of 600 respondents. The data obtained from the literature review, responses from questionnaire and interview schedules, observations and pitsos were treated, analysed and interpreted. The analysis and interpretation provided answers, questions and insight into the problem under investigation through which the findings were arrived at. Recommendations made depended on the findings.

Findings Of The Study

The findings of the study were numerous and some of them were not anticipated. However, all of them have been listed under the following headings and brief commentary provided

- Curriculum reform and innovation
- Infrastructure availability and provision
- Recruitment of teachers, teacher development and retraining:
- Institutional reform and innovation at system level, and
- Unanticipated findings.

1. Curriculum reform and innovation: With regard to the research questions, the following were substantial answers. It was identified that between 1962 and 1996 several commissions were set to investigate the relevance of secondary education provision to recipients. The commissions [1962, 1966, 1978, 1982, 1984, 1991-92, 1995-96] recommended the revision of the curriculum and the introduction of practical studies, provision of equipment and materials, the strengthening of the overall administration and management especially the inspectorate, the decentralisation of administration, the provision of laboratories and workshops, recruitment of qualified teachers and in-service for old teachers.

Comments: The government set up the National Curriculum Development Centre [NCDC]. Practical studies were integrated into the existing curriculum not as a separate course or subject but as a teaching technique through which teachers emphasised the significance of basic practical skills [Task Force Report 1982]. The deficiencies were obvious and these included absence of workshops and laboratories, qualified teachers for practical studies and materials and equipment. At the time of this study [1996-1998] the Ministry of Education [MOE] has not implemented most of the recommendations proposed by the various commissions especially personnel, infrastructure, equipment and materials and the broad implementation of the new syllabus. With this kind of picture, reform and innovation cannot bring about improvement in the education system.

2. Infrastructure provision and availability: There is lack or total absence of infrastructure, especially in the rural area. Classrooms are inadequate. Libraries, workshops and laboratories are not provided except in some of the urban centres.

Comments: With this kind of grim picture reform and innovation cannot bring about improvement in the education system let along the sustenance of further development.

3. Teacher recruitment and in-service training: The MOE does not have control about the recruitment of teachers for distribution to schools. The mission secretariat and the school managers recruit teachers and send their list to the MOE for salary purposes. Teachers do not get promotion because there are not clear guidelines to this effect. As a result most schools do not have adequate number of teachers and coupled with low salaries and no pension scheme [at the time of the study] the morale of teachers was at its lowest ebb. There is only one teacher training college and the University of Lesotho was not tasked to train teachers [at the time of the study]. Those who were employed left without notice to greener pastures in South Africa and Botswana.

Comments: The implementation of reform and innovation in an education system depends on the quality and quantity of teachers and other personnel available as well as the provision of the required infrastructure, equipment and materials. Unfortunately, Lesotho does not have the financial urge to do all that and for that reason, the implementation of recommendations becomes an impossible task.

4. Institutional reform and innovation at system level: From the various pitsos organised by the government and the researcher during the study, the basotho public want complete restructuring of the secondary education system to provide for practical, applicable and relevant skills oriented subjects to equip secondary school graduates with living skills to be employable or self-employed after leaving school. However, all these have been impossible to implement due to severe inefficiency of management and administration.

Comments: There is need for total re-organization of the teaching service regarding inspectors and inspection of schools, recruitment and distribution of teachers, orderly provision of in-service training for old teachers, adequate supply of equipment and provision of relevant infrastructure and proper evaluation of activities in the secondary school system.

5. Unanticipated findings: The list below represents the findings that were not anticipated:

1. The traditional basotho education system has been completely replaced by the formal European education system and as such the thrust of practicality, applicability and relevance have been completely avoided in terms of the incorporation of practical traditional skills.
2. The aims of the colonial education system are still hinged on by the Lesotho secondary school education system with academically oriented curricula despite curricula changes.
3. There is no established system for the recruitment and distribution of qualified teachers by the MOE creating a huge disparity in the staffing of secondary schools.
4. There is not compulsory registration of teachers as professionals before they can be employed as teachers.

Recommendations

According to Wilms [1990:242] “... integrating practical experiences with classroom studies has long been regarded by many educators – modern and ancient ... as a panacea for a host of educational provision problems,” especially in the secondary school system where most of the learners terminate. The best effort in the provision of secondary education in the Kingdom of Lesotho should be given to a secondary school education that is relevant, appropriate and applicable to enable school graduates use their acquired skills for everyday use Noble (1995:78); Rogers (1986:169); Rudduck et al (1996:25]. The real challenge is that the quality of secondary school education should be such that it makes graduates useful citizens capable of applying the knowledge and the skills acquired to make a decent living long after they have graduated. Real education is that which is left with the learner long after everything learned at school has been forgotten Anderson (1981:13); Noble (1995:78].

Recommendations

Towards a new secondary school education provision: The Kingdom of Lesotho secondary education system has the chief responsibility for producing a capable workforce that will carry the flag of the Kingdom’s development mission and vision through to accomplishment in the 21st century. There is, therefore, the need to make significant effort to improve public schools as to be able to address the current and the future unemployment among secondary school graduates Salamon (1991:23]. Secondary education provision is one of the most important media for the provision of learning opportunities. The rapid pace of economic, social and technological changes in our contemporary societies has highlighted the difference between

what the secondary school system provides and what is apparently needed, especially in the business-industry world Carr-Hill (1988:3]. The secondary education, as traditionally organised, cannot meet these needs for appropriate and relevant education.

Secondary education and employment should relate to each other through a great many connections, processes and interfaces Korn et al (1984:13]. These authors indicate that the system of secondary education and the system of employment are both defined by the interplay of political, economic, social, cultural, juridical and material-technological factors under specific historical conditions. The two complementary systems are highly dynamic, actively related and interdependent. The framework of their relationships can be comprehended only as an integral part of a whole and in the final analysis as an integral part of the socio-economic and socio-political structures of the society. In the current Lesotho perspective, these are fundamental statements not taken seriously by the secondary education system.

Considered from this angle, the shaping of relations between secondary education and employment presents itself as a special problem of relationship between social and economic progress. It further implies making them efficient and effective in both social and economic terms. Since this aspect is in direct correlation, any change in one affect the other either positively or negatively Korn & Maier (1977:15].

Currently, it is possible to evaluate Lesotho's secondary education system with its objectives, principles and attainments as something isolated from the requirements of its past, present and even the future employment system. The establishment of proportions in the interrelations between secondary education and employment is purpose-oriented within the framework of that totality that determines social reproduction as a whole.

The following have been emphasised by Boyer in Salmon (1991:31] as significant for meaningful changes that can enhance the provision of applicable, relevant and functional secondary education for employment and development:

1. A national commitment to the proposition that every secondary school graduate must have high quality functional, applicable and relevant secondary education responsive to national and community needs and can respond to them in a practical way.
2. A need for the development of a coherent curricula stressing proficiency in languages, availability of facilities, equipment and infrastructure, integration of cultural and traditional knowledge, basic science and above all familiarity with the needs of business-industry world.
3. The restructuring of secondary schools to stress school-based management and accountability for educational performance.
4. A greater effort to recruit and train better educators through higher salaries, improved working conditions, expanded teacher-renewal programmes and an effort to upgrade the status of teaching as a profession requiring compulsory registration body to oversee the registration of professional educators.
5. An expanded partnership between the secondary schools on one hand and the parents and business-industry world on the other.

Attention needs to be paid to the practical application of scientific and acquired knowledge for immediate use after the completion of secondary education. In other words greater efforts should be made to facilitate training and functional practical skills-based development within the secondary school parameters. As a prerequisite to secondary school education in practical terms for practical on-the-job experience, training and skills development should be integrated

and attention should be paid to weekend and vacation employment for all secondary school learners to practically put their theoretical knowledge into practice in their chosen fields exposing them, right from the start, to the realities of the business-industry world before the completion of their secondary education.

Towards partnership between secondary education and the business-industry world: There is urgent need for partnership between secondary education and the business-industry world in relation to curricula and infrastructural matters. Partnership reflects an understanding that the economic well-being and the vitality of a community are tied to the quality of its public secondary school system. In effect, good public secondary school system is also good for the business-industry world because it will encourage and contribute to the overall community general stability, advancement and development. To the secondary school graduates the following serve as the major advantages if partnerships are forged between the secondary school system and the business-industry world:

1. Learners acquire basic work experience before the completion of their secondary school education exposing them to the business-industry world in advance.
2. Learners will have the opportunity to undertake on-the-job training and exposure, especially during the afternoons, weekends, holidays and vacations, as part of their experiences. Work shadowing, work simulation and industrial site visits are included in the study programme.
3. Academic work that relates to the demands of the business-industry world would be made real, practical and will stimulate interest and all learners would strive to do well to ensure smooth career path. In this perspective, motivation would be high because of the use of industrial resources as well as industrialists as personal educators while the learners are on site.
4. Since the curricula is a joint product of all stakeholders, it is relevant to both the graduates and the business-industry world because there is joint secondary education-business-industry curricula project which will cater for all interested parties and fulfil their aspirations.

To the educators as well as education policy makers the advantages of this kind of partnership between the secondary education system and the business-industry world include the following:

1. Educators can be attached to industry and also attend company training programmes and courses so that they are able to use the primary up-to-date materials in the classroom before secondary school graduates are taken out on their on-the-job practical training. Educators may use this as a spring board to change their profession by joining the business-industry world.
2. Educators will be able to develop and maintain personal contacts and receive expert assistance from the business-industry world for policy-making, curricula propositions, resources selection, allocation and general planning. Furthermore, information about needs of the work place that will enable secondary institutions to develop relevant programmes is made available to educators. There is also the advantage of the use of experts from the business-industry as part time, temporary or full time educators and trainers of secondary school graduates.

The purpose of all these is to give the educator the opportunity to gain first-hand experience and knowledge of a variety of careers and offers the educator numerous opportunities for support in order to carry out the accorded tasks effectively and efficiently.

While the educators and secondary school graduates become beneficiaries of the excellent partnership, the business-industry world and the government benefit as well. To the business-industry world, the secondary school system will produce educated and well-prepared workforce. As a result the business-industry world will promote and permit the use of their facilities, equipment and other resources of the educational institutions. This will further increase the direct economic benefits from the secondary education institutions that may also buy goods and other products and services in their local communities helping them to apply technology to further improve business operations and raising the economic level of the community.

Towards physical facilities and infrastructural provision: Where it is not possible to provide laboratories, workshops and libraries for every secondary school, especially at the initial stages of the reform and innovation process. The MOE should set up a committee to plan to equip schools. In the plan the following should be considered:

1. The ten districts should be re-zoned into smaller educational regions.
2. Each region should have equal number of secondary schools.
3. A centrally placed secondary school in each new region should be selected for the pilot project period for development.
4. The selected central schools in each region should be budgeted for development and equipped with laboratories, workshops and libraries as well as materials and equipment, electricity and water.
5. A central time-table should be prepared for each region to accommodate all the schools to come to the centre at specific times to make use of the facilities either weekly or fortnightly..
6. These selected schools should be well-staffed to cater for all the needs of the curricula of the schools within that region.

Once the pilot project has fulfilled its expectations through rigorous assessment and evaluation, one school each from the regions should be equipped each financial year so that with time, all the schools will be equipped with laboratories, workshops and libraries to help the learners acquire practical, applicable and relevant skills before the completion of their secondary education.

Implications For Changes

If the Government is to undertake the required reform and innovation then there are certain measures that should be put into place. With respect to curricula changes, there will be need for renovation of structures in the schools and new ones added. Teachers would have to be retrained or provided with intensive in-service to be able to cope with the new changes. There is need for the re-organization of the inspectorate to make it efficient. This will demand the recruitment of more inspectors and placed at the district offices as decentralization will need them to be close to the areas they are supposed to operate. Teachers should be recognised and remunerated for their service, especially promotion should be granted when the time is ripe not necessarily moving the promoted teacher from the school. The implications are that the Government of Lesotho would have to forgo some of its commitments and prioritise the secondary school system. The researcher believes that it would be a worthwhile action since most of the pupils terminate at the secondary school level.

Conclusion

The problems that the Lesotho education system faces have both universal and local implications. The universal implications are that most of the problems are characteristic of all education systems particularly those related to curriculum, lack of infrastructure and qualified teachers. The local implications pertain to specific provisions and applications which include relevant and applicable curricula, training and retraining of teachers, lack of facilities, equipment and regular assessment and evaluation of the system. The solution of most or all of the identified problems lies in the critical study of successful education systems where functionality, relevance and applicability have been given prominence in the provision of secondary education.

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Professionalisation of teachers in Nigeria: challenges and obstacles

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Abstract

Characteristics common to the professions, which are important to the professionalisation of teaching relate to: knowledge, based on long period of training; autonomy in decision making; responsibility; control over licensure and entry standards; prestige and economic status. In Nigeria, barriers to 'formal' professional status of teachers are connected to lack of resources, low status, prestige and a fairly low caliber intake. This paper analyses some of the challenges and obstacles facing the professionalisation of teachers in Nigeria, focusing on the espoused [official] and the experienced [actual] positions of teachers. Taking as a starting point some of the key debates surrounding the concept of professionalism, and applying some of these conceptual frameworks to the education and training of teachers in Nigeria, suggestions are made for the future development of teacher education and professionalism in Nigeria.

Introduction

Professionalism is a complex concept, which has been studied and defined by many people from a variety of disciplines and looked at from different perspectives. As Hoyle & John (1995) pointed out:

“Profession is an essentially contested concept. Despite its widespread use in the media and in the everyday discourse of those who would be readily regarded as professional people, and despite the best efforts of sociologists, philosophers and historians, it defies common agreement as to its meaning”. (p.1).

This stems from the fact that occupations differ as to the degree to which they are professional, and the degree to which they meet the definition of 'profession' is often assessed by measuring the occupation on certain key elements or characteristics. There is however no doubt that professionalism is an ideal to which educators aspire, talk about and strive to inculcate in new teachers. What then does the term mean?

Professionalism: ideas and concepts.

The earliest meaning of the term can be traced to those professing the vows of a religious order. For the religious (Priest, Rev. Sisters etc.), it meant the act of professing, a declaration of loyalty. The Oxford English Dictionary (1998) defines profession as: “A paid occupation, especially one that involves prolonged training and a formal qualification: his chosen profession of teaching” (p.1480), or simply by its antonym – 'amateur'. One may also approach the problem of definition by looking at approaches to the professions in the history of the sociology of the professions:

The functionalist approach to the professions

The functionalist model, developed by people like Carr-Saunders and Wilson (1933), Marshall (1963), Goode (1969), and cited in Eraut (1994) and Macdonald (1995) accord primacy of place to the professional knowledge base. The central assumption of this approach is the social control of expertise. Traits such as 'altruism', 'collectivity-orientation' were emphasized. Hoyle's (1982)

functionalist approach for instance is in broad agreement with this and defines a profession in terms of its central social function, its length of training, a body of knowledge, high levels of skills, a code of ethical conduct, client-centredness, autonomy, independent decision-making and adaptability, self-governance and the requirement that it plays a central role in relevant public policy-making. The approach was one of defining traits specific to the professions, assuming their integrative function and looking for occupational groups satisfying the criteria. This 'criterion approach' (Hoyle & John, 1995) leads to a set of defining characteristics against which the conduct (i.e. how a profession need to be like or how members need to act like) of a profession can be measured.

The approach may appeal to the professions in the sense that it spells out their privileges and positions in terms of a rational solution to the society's needs. But providing a list of professional 'traits' and assuming their integrative function to Eraut (1994), has not solved the problem of definition. One significant reason that Eraut gives for this is that several traits are culturally specific, with greater significance in some countries (in 'western' societies- one may look at Germany and France compared to the USA for instance) than others. Thus assuming that there is a well defined, uncontested and unproblematic set of needs within the society without asking searching questions about the very nature of the society makes this approach to the definition a historical. It only offers an understanding of the nature of the professions in terms of current practices arising from the needs of society, thereby ignoring variations between societies and why some functions are valued. But despite these challenges, the 'trait' approach continues to be used even by people like Eraut (1994). This idealist perspective provides a link to the description of a related term such as 'professionalisation', which is regarded as "the process by which a semi-profession increasingly meets the alleged criteria of a full profession" (Hoyle & John, 1995, p16).

The interactionist approach to the professions

Interactionists (typified by the Chicago school) rather than look for traits in the professions, studied the everyday actions and interactions of professionals, how they constituted their social worlds as participants and constructed their careers. This social constructivist approach views the profession as a relative concept, which is susceptible to different constructions according to the discursive disposition of its advocates and critics. The main strategy of this group is 'social closure' of the field of action of the profession, while the driving force of professionalisation is seen as the striving for upward mobility in the social structure. The social closure enabled groups with common interest to act in a collective manner to protect their interest and membership. Larson's (1977) work, which was based on 'Weberian' ideas, draws attention to the formation of a capitalist market in a society and hence social closure. The 'professional project', which lays emphasis on employment rewards for those who achieve professional status, has been highly influential in the development of the concept of profession. According to this group, the materially and symbolically privileged position of professional workers is achieved by virtue of the protection and patronage of some elite segment of society (Freidson, 1970, cited in Macdonald, 1995). Thus, socio-economic-political aspects are central here, where an elite occupation equals exclusivity and increased labour market power.

Despite the usefulness of this approach in relating the professions to markets, status, reward and hierarchies, the 'closure' system is problematic in the sense that in an attempt to close access to its occupation, the group may willingly or unwillingly erect barriers that could in turn promote inequality. In keeping with this group's approach to the problem of definition, Hargreaves & Goodson (1996) define *professionalisation* as "a social and political project or mission designed to enhance the interests of an occupational group". (p.27).

Contrary to the Functionalist and Interactionist approaches, the division of labour approach takes the closure idea seriously and looks into the inter-professional competitions between professions. The focus here is on the content of professional work, the central idea being that there are among professions, disputes over their work area. Abbott (1988) is cited in Macdonald (1995) as referring to this as the 'jurisdictional disputes'. Abbott's view was that professions constitute a system, which can be used to assess levels of professionalisation.

Again, in comparison with the above approaches to the profession, the Foucauldian approach to the profession is concerned with the relationship between knowledge and power (Macdonald, 1995). Foucault rejects any idea that the state is a purposeful actor. Instead, the state is viewed as an ensemble of institutions, procedures, tactics, knowledge, which together form the particular direction that the state has chosen. Thus from this perspective, both the state and the professions are in part, the emergent effects of the interplay between changing government policies and occupational strategies. An example of uses of Foucault's ideas may be found in medicine and dentistry.

The different approaches to the professions as presented above though typical of the western (particularly English-speaking) world are no doubt useful in understanding the professions and their professional activities. While there might be disagreement on certain criteria, there is still a widespread agreement, according to Hoyle & John (1995), in respect of the criteria of knowledge, autonomy and responsibility. Both the idealist and social constructivist approaches to the questions of professionalism and professionalisation are relevant. While the former provides an ideal type against which the status and conduct of a profession or its erosion might be measured, the latter draws attention to the socially contextual nature of professions (i.e. the changing nature of their status, definition, work and behaviour).

Based on the various perspectives as analysed above, the following compound definition will be used as a benchmark, to compare espoused policy statements that define teachers as professionals in Nigeria, and the 'actual' state of the teaching profession:

A profession is an occupation with a set of competencies, based on knowledge acquired through many years of academic training, the goal of its members being a commitment to service, guided by a code of ethics. The profession is granted autonomy and public recognition to provide a service, considered essential by the society through a regulatory body, responsible for establishing and maintaining standards through mechanisms such as, credentialing, standards of practice and competence.

The teaching profession in Nigeria

Available documents and policy statements emphasise the importance of the teaching profession in Nigeria. Recognising the pivotal role of teachers in the quality of its education, the National Policy on Education (NPE) clearly states that: "Teacher Education will continue to be given major emphasis in all our educational planning because no education system can rise above the quality of its teachers" (Federal Republic of Nigeria, 1981, p.38). On teaching as a profession, the NPE articulates the following:

- Teaching, like other professions, will be legally and publicly recognized as a profession. Government will set up the Teachers' Council, among whose functions will be Accreditation, Certification, Registration, Discipline and Regulation governing the profession of teaching.

- Those teachers already admitted into the profession without the requisite qualification will be given a period of time within which to qualify for admission or leave the profession.
- Government will introduce measures to enable teachers to participate more in the production and assessment of educational materials and teaching aids, planning and development of curriculum, school buildings and furniture, and evaluation of technical innovation and new techniques (ibid).

Reiterating these points, the Nigerian Teachers' Service Manual has the following to say about the teaching profession: "It is desirable that teaching should be professionalised in order to enhance the role of teachers in the formulation and implementation of education in the country" (Federal Republic of Nigeria, 1990, p.1). It then went ahead to identify the features of professional organizations and behaviours that will serve as guidelines for effecting professionalisation as:

- They provide an essential social service.
- They have a monopoly over an esoteric body of knowledge and skills acquired over a period of training.
- They have a high degree of autonomy [i.e. organizational autonomy - the medieval model] embracing: control of entry into the profession; responsibility for maintaining and improving professional competence of members; control over working conditions.
- They have a responsibility for developing and enforcing a Code of Conduct.
- They participate in decision making on matters affecting the profession.
- They have a definite professional culture
- They have a strong sense of altruism
- Members have a sense of calling.

Based on these, the 'Manual' defines a professional teacher as:

"A person who has the registrable professional qualification which enables him to be appointed to teach at any appropriate level of recognized education in Nigeria and who is of a sound mind and is mentally alert". (Ibid, p.3).

The strategies laid out for professionalising teaching include the role of Government in enacting a teaching profession act and establishing a National Teachers' Council. The teachers on their part are to ensure adherence to the culture and ethics of the profession by belonging to a teachers' organization (e.g. Nigerian Union of Teachers), and availing themselves of the opportunities for professional growth through in-service training, and membership of subject associations.

From these policy statements therefore, it appears that a checklist of observable behaviours, and characteristics to which full professions may conform defines professionalism in the Nigerian context. Classical, democratic professionalism (Hargreaves & Goodson, 1996) thus remains a yardstick for measuring the current state of a profession and credentials seem to be the key.

The professional development of teachers in the country will be examined in the light of the above, and in relation to the 'official' position of teachers in Nigeria.

Professional development of teachers in Nigeria

Teacher professional development (TPD) is a term currently being used to describe ‘in-service training’, ‘continuing education’, ‘workshops’ or ‘on-the-job-training’. This term covers a large scope of teacher education including training requirements initiated by the employer and the teacher or professional organization. Lucas in Jegede (2001) defined the term as:

“All forms of ‘in-service’, ‘continuing education’, ‘training’ and ‘professional development’, whether formal or informal, whether teacher-initiated or system-initiated, and whether accredited or otherwise”. (p.3).

The emphasis here is both on the needs of the institution and the professional needs of the individual staff members. The implication of this is a career-long professional development programme for teachers, which can be realized through a combination of various approaches involving initial training, regular inductions and in-service training programmes designed to cater for the needs of intending as well as serving teachers. Leach (1996) describes it as a continuum, a creative journey from the earliest stages of initial teacher education, through to the latest stages of being an educational professional.

In Nigeria, formal training of teachers goes on in designated Colleges of Education, faculties of education in the universities, education resource centers and by distance learning systems. Also, the National Institute for Educational Planning and Administration (NIEPA) organizes in-service training courses for principals, inspectors and educational planners on school administration, monitoring and evaluation. The National Policy on Education prescribes the Nigerian Certificate in Education (NCE) as the minimum teaching qualification in the school system. Prior to this, the Grade 11 Teachers’ Certificate was the minimum qualification for teaching in the primary school level. The teacher education policy is designed to:

- Produce highly motivated, conscientious and efficient classroom teachers for all levels of the educational system;
- Encourage further the spirit of enquiry and creativity in teachers;
- Help teachers to fit into social life of the community and the society at large and enhance their commitment to national goals
- Provide teachers with the intellectual and professional [a liberal education policy] background adequate for their assignment and make them adaptable to changing situations
- Enhance teachers’ commitment to the teaching profession (Federal Republic of Nigeria, 1981, p.38)

Since the Nigeria Certificate in Education (NCE) is the minimum qualification for teachers in Nigeria, I will comment briefly on the curriculum of the Colleges of Education. The curriculum for the Colleges of Education is designed and approved by the National Commission for Colleges of Education (NCCE - Apex regulatory body for colleges of Education). The curriculum lays emphasis on subject mastery and pedagogy. To be eligible for the award of NCE, “a student must earn a total minimum 128 to 132 credits to graduate covering: Education, Projects, General studies, Teaching Practice and a double major or two teaching subjects” (NCCE, 2002, p.2). The NCE curriculum can therefore be described in terms of four major areas:

- Subject methods
- Education and General Studies
- Teaching Practice and
- Supervised Project

Assessment is by means of continuous assessment and end of semester examination. The teacher is expected to be a specialist in whatever subjects s/he is trained in, while the education

courses are to prepare him for competent classroom work. There is constant monitoring by visitation panels to ensure that institutions are following the curriculum and that standards are being met, and lapses corrected in subsequent revisions (carried out every five years).

One may therefore say that the curriculum is well designed for the *professional schooling* (Freidson, 2001) of teachers in the country, as it enables them to obtain the credential required by the profession. In other words, teachers in Nigeria are being provided with the basic knowledge (i.e. discipline/pedagogical knowledge) and classroom skills (acquired during practice teaching and internship) to enable them perform their duties. However, what they (Nigerian teachers) lay their claim to professionalism on is what I now turn.

Professionalism: 'official' versus 'actual' conceptions

How does the 'official' compare with the 'actual' conceptions of professionalism in Nigeria? In discussing this, I will go back to the professionalism elements of: quality practice, continuous learning of one's subject and pedagogy, active participation in various organizations to further the professional status of teachers and teaching, and ethics that were identified from the literature as well as policy statements and documents. In Osuji's (2004) study, the following were highlighted as Nigerian teachers' understandings of professionalisation of teaching:

- Establishment of Teachers Salary Scale (TSS)
- Establishment of Teachers Registration Council (TRC)
- Regular payment of salaries and
- Improvement of teacher education through pre and in-service education

TSS and TRC appear to rank first and second in the rank order.

In line with this, the Government has since taken a major progressive step in the professionalisation of teaching by establishing the Teachers Registration Council (TRC) by Act 31 of 1993, with the mandate to regulate and control the profession at all levels (Daily Champion, Lagos, 2005). The Council officially took off in the year 2000 and is faced with the task of determining who are to be regarded/classified as a teacher in the country and making sure they are registered. The criteria for registration of persons as a teacher include the possession after undergoing a teacher training programme, (which must include classroom practice) of the Nigeria Certificate in Education (NCE) to teach in primary school, a Bachelors Degree in Education (B.Ed) or Post-Graduate Diploma (PGD) in education, to teach in secondary school. Teachers are to get relevant qualifications and avail themselves of the exercise (before the deadline of year 2006) as unregistered teachers will be treated as 'quacks' in the profession and may even be prosecuted under the law. So far, the TRC has registered about 500,000 teachers according to reports. Part of the driving force behind this exercise by government is the functional consideration that it will justify publicly the professional teaching workforce in the country's educational system (perceived as falling in standards), which will in turn restore integrity and credibility to the teaching profession. It is also expected that this 'professionalisation' move will help raise the status and reward level of teachers, who have since lost their prestige, respect and status in the society.

But as genuine as this public-minded agenda appears to be, there is still a wide gap between these pronouncements about the teaching profession and actual practice. In terms of quality practice, it would seem that though the entry requirements into initial teacher training programmes are becoming more rigorous, the calibre of teacher trainees is questionable. Data from a Doctor of Education study in progress (Ukpo in progress) aimed at evaluating the student support services of the National Teachers' Institute (NTI) NCE programme show that entrants into the programme are mature people (mostly aged between 33 and 37), who possess a

minimum of the secondary school certificate or its equivalent. Results also indicate that students are highly motivated to enroll for the programme by the economic benefits that would follow their enhanced qualification and status and their perceived need to improve their ability to participate in community work, but are less intrinsically motivated to improve their intellectual knowledge and classroom performance. Sometimes, most of them have enrolled in the programme because they could not get admission into Universities. Even teacher trainees who qualify for university admission opt for education because “they are desperate to enter the university to obtain a degree” (Egbonu, 1999, p. 40), not because it was their first choice. Inadequate matriculation examination grades for courses like medicine, engineering, law, or business administration made them opt for education. In other words, teaching is taken up as a second choice career. Thus in reality, necessity rather than love for the classroom profession seem to be instrumental to their enrolling for courses in colleges of education and faculties of education in the universities.

Again, even where a trainee is intellectually good and the initial motivation highly integrative, the prospects for employment are surprisingly low, when in reality, there are not enough to cope with the demand for education. As suggested by the TRC Registrar in Daily Champion (2005) the shortage of teachers might be as a result of the inability of governments (particularly state and local governments) to pay salaries that are commensurate with teachers’ qualifications and the uncertainty in the employment market for teachers. In such situations, governments would still resort to the employment of unqualified (lowly paid) teachers. Even where they are employed, the salaries are often delayed. The lack of motivation thus remains an inhibiting factor to teacher effectiveness, which often leads to student/institutional failures. When linked to what is regarded as professional ethics, this might not be easily defined, regulated or measured as it may be difficult to ensure a teacher’s professional commitment to using class time to perform their teaching duties when their sense of identity in the community and society at large is being undermined through low and irregular pay.

Looking at the work/training of teachers in the current changing environment, the reality in Nigeria is that most of them do not have the opportunity of regular short or long courses of training after their initial qualification and lack the resources to work with. Except for teachers who belong to professional bodies in content/subject areas (e.g. the Science teachers’ Association of Nigeria), those particularly at the lower level (primary and secondary school teachers) do not have regular seminars, workshops or conferences at which new approaches to teaching are discussed. Of the 464 teachers in Osuji’s (2004) study, 389 (83.8%) had not attended any seminars/workshops since their initial training. This implicitly makes it difficult for Nigerian teachers to work effectively (individually and collectively) to meet the demands of the 21st century and in turn acts as an impediment to the attainment of the National Policy on Education goals of encouraging the spirit of enquiry and creativity in the teacher.

Given this scenario therefore, the country is faced with a situation where most of the teacher trainees are either not the best material for training or are not emotionally prepared for the training ahead of them. Even those already in the profession lack the motivation to stay in the job and the opportunity for self-development. Devising a perfect teacher education policy is thus one thing and implementation is another. In other words, there is always a downside as to how the country measures when the ‘official’ is compared with the ‘actual’ in terms of the scope and depth of fulfillment.

Conclusion

Professionalism undoubtedly is an ideal to which educators aspire, talk about and emphasise. From the different sociological perspectives of the profession, the key concepts that emerge are those of knowledge, autonomy and responsibility. Going back to the characteristics common to the professions, which are important to the professionalisation of teaching, Nigerian teachers appear to have achieved those that relate to professional knowledge, based on long period of training. But those characteristics that relate to autonomy/power, status, reward and responsibility are still problematic. While autonomy in the classroom is exercised to a considerable level, participation in curriculum reforms and decision-making appear to be limited in scope.

A major step has been taken in Nigeria's teacher professionalisation project; but the challenges that remain should not be underestimated. The following is offered as suggestions for the way forward in the realization of teacher professionalism in the country and as a way of reconciling the espoused policy and the actual practice:

- Teachers will need to take more responsibility and control over issues concerning the teaching profession, for a profession that is largely controlled and regulated from the outside cannot hope to maintain a high status. This can be achieved through active participation in curriculum and assessment reforms. Now that the Teachers' Registration Council (TRC) has been established in the country, teachers are better placed to use this body to act as advocate in decisions concerning teacher training and development and to engage in open dialogue on how to move forward. This will strengthen their position as a profession.
- There is a need for an emphatic professional support system that would help teachers pursue lifelong professional development, such as continuous professional development, collaboration and mentoring.
- Most important of all is the conditions of work and service of the teacher. If it is the desire of the country to raise teaching standards, then issues such as remuneration, leave provisions, class sizes, and extra curricular activities of teachers need to be properly addressed. Teachers in Nigeria certainly need better pay and conditions of service. This will help eliminate the problem of 'ghost teachers' and mismanagement of funds. If the Government has recognized teaching as a profession as implied in policy statements, the teacher's union need to strengthen its bargaining powers in relation to the power of the state. This will in turn strengthen the ability of the teaching profession to affect its remuneration and its conditions of service. The dual role of unions (as advocates in respect of remuneration and conditions of work and as education policy makers) notwithstanding, a situation where unions particularly in Nigeria are often compromising their advocacy role or trading it off for positions in government does not help the profession. The NUT in Nigeria must therefore try to balance the dual role they play in order to favour both the teaching profession and government reform agendas.
- Finally, in order for the goals of teacher education to be fully implemented, the curriculum for teacher education should be constantly upgraded to adapt to changing times.

This paper has pointed to a number of policy and practice contradictions. However, with new conceptions of professionalism (e.g. the move for evidence based practice) beginning to highlight professionalism, the suggestions offered above though not exhaustive, can go a long way to ensuring that teaching in Nigeria assumes a professional posture for professionally well-adjusted teachers who will be committed to the profession.

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