

Full Length Research Paper

Attrition rates in primary schools in Delta State of Nigeria

Duze C. O.

Department of Educational Administration and Policy Studies, Delta State University, Abraka, Nigeria.
E-mail: chineloduze@yahoo.com. Tel: +2348033380605.

Accepted 6 April, 2011

This study investigated attrition rates in selected primary schools in Delta State, Nigeria, involving 5,545 pupils comprising 3,014 boys and 2,531 girls using the 2003 cohort. A checklist collected data on the flow of pupils from all available school records from the start of cohort to graduation. Percentage and mean were used for data analysis. Average attrition rate found was 19.24%, highest was 36.60% for a public/rural/small school, lowest was 7.24% for a private/urban/large school, 15.60% for boys and 23.59% for girls. Generally, attrition rates were higher in girls than in boys, and in public than private, rural than urban, and small than large schools. These rates were all lower than the fifty percent and above found in earlier studies in Nigeria, indicating improvement in school attendance, reduction in wastages, and improvement in girl-child education. Although these rates did not meet the UNESCO's one percent minimum, they did not exceed its fifty percent maximum, and were not as alarming as older studies indicated. The index of wastage provided by these rates would help government in strategizing and projecting targets for achieving the EFA and MDG goals by 2015. There is however room for greater improvement if public primary schools were better equipped and greater campaign pursued for formal girl-child education.

Key words: Primary school, attrition rates, Delta State, Nigeria.

INTRODUCTION

The primary school level is globally accepted as the foundation of education of any nation and any flaws not determined early enough and corrected would definitely affect the entire educational system of that nation adversely. The Federal Government of Nigeria acknowledged this when it unequivocally declared that the rest of the education system is built upon the primary level which is the key to the success or failure of the whole educational system (FRN, 2004).

As far back as 1976, when the first Universal Primary Education (UPE) intakes in Nigeria started school, a number of States in Nigeria, including the defunct Bendel State from where Delta State and Edo States were carved out, had already achieved nearly 100% enrolment of school age children in the primary school. The other States that attained this level of enrolment along with Bendel State were Anambra, Cross River, Imo, Lagos, Ogun, and Rivers States (Fafunwa, 1984). Some of these States like Anambra, Imo, Delta, Ogun, Ondo, Osun, and Ekiti, have also been grouped as "educationally advanced" States in Nigeria. However, research studies

have revealed that all of these States have recorded high rates of attrition in the UPE programme despite their initial high enrolments (Duze, 2003; Adeyemi, 1998; Okereke, 1995; Adesina, 1980).

Though the World Bank Report (2001) shows that the incidence of attrition amongst school children is inherent in the educational systems of countries all over the world, the rate at which it occurs in the Nigerian educational system is worrisome. For instance, the Niger Delta Development Commission (NDDC) Report (2002) observes that out of the 70,150,586 children enrolled in both primary and secondary schools in the Niger Delta Area of Nigeria between 1990 and 1999, 29,622,017 (42.20%) dropped out of school constituting a serious wastage to the educational system. In the same vein, Bahogo and Waila (2002) observe that 11, 655 pupils (16.14%) out of the 72,207 that enrolled in public primary schools in the 1995/1996 school year in Kaduna State of Nigeria dropped out of schools.

Educators and school administrators have observed that children enter and leave the school system at will

and at any time during the school year, especially at the primary level. Hence, the enrolment figures in primary schools were always different and changing in all the States of the Federation, including Delta State. This invariably causes an irregular and unstable flow of pupils from term to term and from year to year, and besides introducing wastages in the system, also makes it rather impossible for educational planners and administrators to make accurate predictions, extrapolations, allocations, and indeed carry out effective/efficient planning and implementation of policies/programmes for the education sector.

Apart from incidences of drop outs from school, some other children spend longer years in school than the stipulated number of years in completing a programme. For instance, some children spend up to ten years or more in completing primary education which in the 6-3-3-4 educational structure should last for only six years. These repeaters also constitute wastages in the educational system. This also affects the internal efficiency of the school as it increases school total cost as additional resources and time are not only spent to instruct repeaters but to expand and rehabilitate available facilities that are already overstretched in Nigeria. A tangible and subtle indication of school wastage refers to children who do not complete their schooling in the stipulated number of years either because they drop out of school entirely or because they repeat one or more grades. (Duze, 2003; Davies, 2001; Payne, 2000; Blaxter, 1999; Martinez, 1997; UNESCO, 1994, 1993; 1972; World Bank, 2001; Pauli and Brimer, 1971). This is the concept of wastage adopted in this study.

Since education is intricately tied to society, educational provisions are essentially meant to satisfy the educational needs of students as well as the society. To this extent, the number of students in the society should determine the type and number of educational provisions required to meet societal needs. If forecasts in the education sector must be realistic, effective planning, adequate educational provisions, effective and efficient implementation, and then accurate knowledge of such statistics as attrition or wastage or dropout rates in the school system, especially at the primary level becomes imperative. However, studies on attrition rates at the primary level are very few and obsolete in Nigeria whereas early termination of schooling at the primary level is an endemic problem in Nigeria that should give educational engineers considerable concern (Duze, 2003; Bahogo and Waila, 2002; World Bank, 2001; Adeyemi, 1998; Nwadiani, 1998; Okereke, 1995). This was the driving force behind this investigation.

Early studies on educational wastage and their patterns revealed alarming and embarrassing figures of attrition especially at the primary level in Nigeria and Africa. Beeby (1973) disclosed that reports compiled by United Nations Educational, Scientific and Cultural Organization (UNESCO) World Survey of Education revealed

embarrassing results for Africa, especially at the primary level, while estimates for Africa, according to the Educational Budgeting in Relation to the Goals from Addis-Ababa, revealed that out of every 100 children who enter the primary schools in Africa, only about 40 complete the course. Avoseh (1975) revealed dropout rates for Central African Republic; Dahomey; Malagasy; Niger; Togo; Upper Volta; and Nigeria to be 45; 51; 54; 36; 17; 51 and 58% respectively. Also, an International Labour Organization (ILO) pilot project carried out in Nigeria presented wastage rates for three school generations as ranging between 52.5, 55.4, and 58.0% respectively in the old Western State of Nigeria with an average wastage rate of about 55% ranging from about 20% in Ibadan city to as high as 85% in the rural areas (Calcott, 1967). In the same vein, Yoloye's (1975) longitudinal pilot study of primary school dropout in the city of Ibadan in Western Nigeria revealed high dropout rates for the various background variables examined with total average dropout rate at about 40%. However, Adesina (1980) was first to reveal a relatively low average wastage rate of 28.9% in primary schools in Lagos State (also in Western Region) among the early studies done.

Perhaps the most remarkable observation about student wastage in African school systems is the recency with which it has been recognized as a problem at all, for, in spite of the huge and vital role which education is thought to play in any nation's development, not much attention has been paid in Africa to the failure of schools to meet the needs of many African children, hence the high rates of attrition (Duze, 2003; Mkpá, 2000; Okereke, 1995; Adesina, 1980; Avoseh, 1975; Yoloye, 1975; Calcott, 1967). This is evident in the gross dearth of research on attrition rates in education. Twenty years after this observation was made by Avoseh (1975) in his study on "Constraints on Efficient Schooling in Sub-Saharan Africa", Okereke (1995) still lamented that studies on attrition rates were very few due to lack of reliable statistics from school administrators. These old studies carried out some thirty years ago are outdated but nevertheless remain useful reference points to the present study.

In contributing to the need for accurate statistics in planning and school administration, Kosemani (1985) reported that in Nigeria, especially at the primary level, enrolment figures have never been accurate as observed in the Universal Primary Education (UPE) scheme in Western Nigeria in 1955, the attempted UPE in the East in 1956/1957 which failed due to inaccurate enrolment figures and other vital statistics, while the nation-wide UPE programme launched by the Federal Government in 1976 could be rationally said to have collapsed even before it took off! He noted that in the 1976 UPE programme, thirty percent of children were enrolled over and above those registered for the programme. As Fafunwa (1984) put it, instead of the 2.3 million children

expected for the take off of the UPE, 3 million showed up, and that was the beginning of disaster in implementation. Consequently, there were serious shortages of classroom spaces, teachers and specialized teachers, materials and equipment, etc and of course, funds. Since this trend has continued over the years, evident in the current Universal Basic Education (UBE) scheme where enrolment figures and comprehensive school records are still inaccurate, it is feared that the implementation of the EFA goals and the Millennium Development Goals (MDGs) may suffer serious setbacks. A foreseeable solution to overcoming these constraints and achieving the Education for All (EFA) and specifically the second objective of the MDGs by 2015 lies in the conduct of more rigorous researches on wastages in primary schools everywhere in Nigeria. This would give the country, an index that can be used when all results are compared, at least, as a working variable. It is also known that one important index of Educational Standards is "wastage" in terms of attrition/dropout rates (UNESCO, 1972; Martinez, 1997; Payne, 2000). Besides, the UPE (now UBE) programme was predicted on the assumption that every Nigerian child has an inalienable right to a minimum of six years of primary education if he is to function as a citizen of Nigeria that is free and democratic, just and egalitarian, united and self-reliant, with full opportunities for all citizens. To this end, the objectives of Primary Education are indicated as:

- (a) The inculcation of permanent literacy and numeracy and the ability to communicate effectively.
- (b) The laying of a sound basis of scientific and reflective thinking.
- (c) Giving citizenship education as a basis for effective participation in and contribution to the life of the society.
- (d) Molding the character and developing sound attitudes and morals in the child.
- (e) Developing in the child the ability to adapt to his changing environment.
- (f) Giving the child opportunities for developing manipulative skills that will enable him to function effectively in the society within the limits of his capabilities.
- (g) Providing the child with basic tools for further educational advancement, including preparation for trades and crafts by linking the school with the trades and crafts of the locality (FRN, 2004).

In pursuance of these goals, the Federal Government further stated that primary education in Nigeria shall be tuition free, universal and compulsory. It was therefore expected that the poorest child from the poorest home and the poorest part of Nigeria should have an unconditional access to a free six years of primary education and indeed complete it. Unfortunately, this has not been so over the years. The fact that there are numerous "incompleters", some dropping out completely

and others repeating classes from different grades along the cohort years, grossly negate the lofty objectives of primary education in Nigeria. The implications of this for the education sector are far-reaching and cannot be over-emphasized.

It is in this light that this study investigates attrition rate of primary schools in Delta State of Nigeria which is one of the States in Nigeria adjudged to have achieved nearly 100% enrolment of school age children at the primary level as far back as the 1980s. Today however, lots and lots of children are seen roaming the streets and hawking goods when they should have been in school classrooms learning.

The theoretical framework for this study is the Production Theory in Education which rests on the "input-process-output" model. The Production Theory in Education is an offshoot of the Production Theory, which portrays a technical relationship between the inputs and the outputs of a production line. Thomas (1971), Oguntoye (1983), Lunenburg and Ornstein (1991), United Nations Economic Commission for Africa (UNECA) (1994), suggested that in analyzing such a relationship, the production function of the system must show that the products meet the objective function for which resource inputs were acquired for the system's operation since production function implies a relationship between resource inputs and process output in any system.

A school system or any system at all is therefore said to be productive if it can show a favourable balance between the resources it uses and the output it produces. When this balance cannot be obtained and maintained, then wastages arise in the system. In the case of the school system, Pauli and Brimer (1971) referred to educational wastages as "failures" in the system. They stated that wastages in the educational system occur in five major dimensions which lead to waste in resources and human learning. These five dimensions are:

1. Provision is not made for universal education.
2. The system fails to recruit children into training due to certain forms of differential treatment.
3. There is failure to achieve the objectives of the system, especially if there is a lower output per unit time than the system has been designed to achieve.
4. The system fails to hold the children it has admitted and prevent them from premature withdrawal.
5. The system fails to set appropriate objectives for the guidance of the education production process and prevent the time spent in school from being regarded as a meaningless waste.

According to them, the first two failures centre on the input of the child into the school system, the third failure reduces the rate of returns to the economy, while the last two failures lead to dropout, repetition, and frustration within the school system. It is especially in the light of these last two failures that the Production Theory in

Education becomes relevant to the topic and problem of this study.

In the educational system, the student is both an input and an output which makes it rather different from other production industries. This notwithstanding, the school can be regarded as an industry since like other industries, it exists to achieve stated goals, it makes use of human, material, and financial resources, and its inputs, processes and outputs also change with time. However, while the similarities noted above can justify the school as a productive enterprise, the difference shows that inputs and outputs could be indeed difficult to separate and measure. This situation has led educators and economists to evolve certain measures of inputs and outputs in education categorized as input-related measures and output-related measures which are really not mutually exclusive.

Some of the input and output measures relevant to this study, categorized by Oguntoye (1983) are shown as follows:

- (a) School-related input measures (organizational inputs):
 - (i) School total enrolment.
 - (ii) Average daily attendance (ADA).
 - (iii) Average daily membership (ADM).
 - (iv) Average class size.
 - (v) Type of School – private or public, mixed or single-sex.
 - (vi) Year school was founded.
 - (vii) Classroom environment.
 - (viii) Physical environment of the school.
 - (ix) Adequacy of supplies and equipment in the school.
- (b) Enrolment-related output measures:
 - (i) Number enrolled at each educational level.
 - (ii) Percentage of primary, secondary, and 18 to 25 year-olds benefiting respectively from primary, secondary, and higher education.
 - (iii) Transition rates from primary to secondary, and from secondary to higher education.
 - (iv) School retention rate (wastage rate/attrition rate).
 - (v) Percentage of those enrolled with bias in science-related subjects.
 - (vi) Hours of education had in school.

The inputs in this study bother on the school total enrolment of the school-related input measures while the outputs bother on the school retention rate of the enrolment-related output measures. A major feature of the production theory is a technical efficiency that requires the organization of available inputs or resources in such a way that the maximum feasible output is produced by the enterprise. This, according to Duze (2005), UNECA (1994), Lunenburg and Ornstein (1991), Levin (1971) is the efficiency that is applicable to the educational system. Since resources have alternative uses and could also be scarce, any system, be it

education or industry cannot afford to record high rates of wastage. This would amount to gross inefficiency, which if not corrected, would soon make the objectives of the system unattainable (ineffectiveness). Therefore, it becomes imperative that efficiency be deliberately pursued at production to ensure maximum production at all levels of our educational system (Duze, 2005). This study therefore, investigated attrition rate at the primary school level, a level that is globally accepted as the foundation of education, with a view to highlighting wastage threats to the efficiency as well as the effectiveness of Nigeria's educational system.

The only study found by the researcher on wastage in primary schools in Delta State was that of Okereke (1995) which focused on Isoko Local Government Area. Her study, carried out fifteen years ago in a rural setting using the 1976 cohort UPE intakes, revealed that attrition rates were different in all the six sampled primary schools, with an average dropout rate of 58.45%. This finding like the much earlier studies is equally alarming, disquieting, and worrisome considering the vantage position of Delta State in education. It therefore becomes not only interesting but also imperative to do a similar study for the entire Delta State today, sampling a population that cuts across rural and urban areas of Delta State, involving a larger sample size, and using a more current cohort (2003 cohort) of the UBE programme. The problem of this study therefore was to determine empirically attrition rate in primary schools in Delta State of Nigeria. This would yield useful and essential indicators on the extent of educational wastage in our primary schools. This study would be relevant in many ways since researchers and scholars have come to agree that 'educational standards' are difficult to define in terms of the total amount of knowledge gained by students in school, but that wastage rates are more useful indicators to the extent of determining performance of any educational venture.

The study would be of special benefit to the educational policy/decision makers and all education bodies and agencies as well as research workers in Nigeria and elsewhere. It would be of immense advantage to educational planners and administrators responsible for providing and implementing educational policies and programmes. Indeed, the findings of this study would provide a balanced means for evaluating the performance of the current UBE scheme in the entire nation and thus, help educational planners and policy-makers find better ways of combating educational wastage in Nigeria. These will facilitate the accomplishment of the Education for All (EFA) and Millennium Development Goals (MDGs) in Nigeria.

The UBE programme is geared towards ensuring the provision of basic functional education for all citizens as well as Nigeria's commitment to the pursuit of the Education for All (EFA) mission of the global community on total eradication of illiteracy by the year 2015.

Furthermore, Nigeria's aspiration in her "vision 20-20-20" to become one of the twenty fastest growing economies in the world by the year 2020 relies on education as the major tool and strategy for accomplishment. These may not be effectively achieved if children that should be in school begin to drop out prematurely resulting in low enrolment in absolute terms in schools. This would be an unhealthy development in education that would deter Nigeria from attaining one of the UBE's major objectives of reducing drastically the incidence of dropout from the formal school system. Also, since conventional enrolment apparently gives a false overall picture of real educational achievements in the school system, it becomes very necessary to develop appropriate concepts and indicators to measure the incidence of attrition in our primary school system. First and foremost therefore, this study would provide an empirical indicator to the level or extent of wastage in education at the primary level in Delta State of Nigeria.

Education must be managed in such a manner that it would yield the expected dividends to society. To do this well, planning and administration of policies and programmes for the system must be done effectively and efficiently. If 100% efficiency must be achieved, then the system must eliminate every form of wastage. The greatest wastage threat in the educational system is actually the one that arises from attrition or dropout from schools. In order to be constantly aware of its magnitude and pattern in the system to enable accurate and reliable evaluations, predictions and projections, research must continually be done in this area.

The following terms used in this study are operationally defined as follows:

(a) Attrition: Refers to a gradual process of reduction in school enrolment as a result of pupils' repetition or complete withdrawal (drop out) from formal schooling at any point within the cohort years and thus fail to complete a school programme along with the cohort.

(b) Cumulative dropout: Refers to the total number of pupils who failed to complete the UBE programme from "primary one to primary six" of a given cohort.

(c) Large schools: Refer to schools with initial enrolments of 300 and above for the 2003 cohort.

(d) Small schools: refer to schools with initial enrolments below 300 for the 2003 cohort.

Research questions

To guide the investigation, six research questions were raised and answered:

1. What is the attrition rate for each of the sampled primary schools in Delta State?

2. What is the average attrition rate for primary schools in Delta State?

3. What are the mean attrition rates in public and private primary schools in Delta State?

4. What are the mean attrition rates in urban and rural primary schools in Delta State?

5. What are the mean attrition rates in large and small primary schools in Delta State?

6. What are the mean attrition rates for Boys and for Girls in primary schools in Delta State?

METHODOLOGY

The research design is a survey where a checklist was used to collect information on the flow of pupils in the sampled schools during the six years of primary education of the 2003 cohort. Considering the fact that a good number of Delta State school age children are now enrolled in private schools, the population of the study was all the pupils in government approved public and private primary schools in Delta State involving all schools that have graduated a cohort from the 2003 academic year intakes. They numbered 276. The 2003/2004 academic year was used as the base year of the cohort. Due to the large number of schools involved, twenty percent of the target population was selected through simple random sampling which gave a total of fifty-five schools. These fifty-five schools were selected from the three Senatorial Districts of Delta State through stratified random sampling to ensure equal representativeness of the sample due to the differing number of schools in the three senatorial districts, and also to include the distinct sub-groups of the variables of this study. These variables are ownership of school (public and private), location (urban and rural), school size (small and large), and gender (boys and girls). The study was delimited to forty-eight primary schools since seven schools had to be dropped for reasons of closure and incomplete data. Considering the large number of pupils in the schools, further selection was carried out using the multi-stage random sampling technique, moving from Local Government Areas to Local Education Councils and Wards, to admit pupils in twelve primary schools. The twelve schools comprised nine public and three private schools; six urban and six rural schools; and eight large and four small schools. These formed a total sample size of 5,545 pupils, comprising 3,014 boys and 2,531 girls. The schools were hypothetically numbered A - L for the purpose of this research. The distribution of the schools and their corresponding enrollments at the beginning of the cohort year (2003) were presented in Table 1.

The instrument used for data collection was a checklist organized by the researcher in such a way that movements/flow of the pupils from year to year within the school can easily be identified and recorded either as repeaters or outright dropouts from school to obtain relevant data on enrolments and progression trends as well as sex of the pupils for the 2003 cohort in the sampled schools. The instrument was certified by experts in educational administration and statistics as valid for the purpose.

The researcher visited each of the twelve sampled primary schools in person. In many cases several visits were made to the schools before obtaining the desired data. Thus, information on pupils' movements between 2003/2004 and 2008/2009 academic sessions for the six years of primary school in each of the schools visited was recorded on the checklist. The data collected were analyzed according to how they related to the research questions using the simple percentage and the mean. Attrition rate (in percentage) was computed using the formula shown:

$$\text{Attrition rate} = (\text{Cumulative dropout}/\text{Initial enrolment}) \times 100\%$$

Table 1. Distribution of the twelve sampled primary schools/pupils used in the study.

School	Ownership	Location	Size	Initial enrollment
A	Public	Urban	Large	744
B	Public	Urban	Large	668
C	Public	Rural	Small	235
D	Public	Rural	Large	608
E	Public	Urban	Large	537
F	Public	Rural	Small	298
G	Public	Urban	Large	389
H	Public	Urban	Large	367
I	Public	Rural	Small	292
J	Private	Urban	Large	525
K	Private	Rural	Small	243
L	Private	Rural	Large	639

RESULTS AND DISCUSSION

Considering the nature of this kind of study that involves a lot of numbers, figures, and rates from both data collected and from data computed/analyzed, it becomes expedient to present, interpret and discuss the results of the study in one section for logical and systematic comprehension without making unnecessary repetitions. Thus, the results of the data analyses were presented in tables and discussed as they related to each of the research questions.

Research question one: What is the attrition rate in each of the sampled primary schools in Delta State of Nigeria?

To answer research question one, the data collected was analyzed and the result presented in Table 2.

The result in Table 2 showed that the incidence of attrition was not the same in the sampled primary schools. School C (a public, rural, and small school) recorded the highest attrition rate of 36.60% while School J (a private, urban, and large school) recorded the lowest attrition rate of 7.24%. Following School C is School F (public, rural, small) with attrition rate of 25.84%, and the next school is School D (public, rural, large) recording 22.37%. Closely behind School J, is a private, rural, and small school (K) with the second least attrition rate of 10.29%. This is closely followed by another private, rural, and large school (L) with an attrition rate of 11.11%. This trend reveals that attrition rates are least in private schools than in public schools. No school hit the UNESCO’s (1962) 1.00% minimum, just as none shot above its maximum of 50%.

It was observed that School C which recorded the highest attrition rate (36.60%) is located on one of the tributaries of the Atlantic Ocean where the terrain is difficult to access by both pupils and teachers. Besides, the “Warri war” that started on the 29th of May 1999,

caused many families from this area to flee their homes and thus abandoned the school. It was therefore not surprising that it recorded this very high rate of attrition. School J which recorded the lowest attrition rate (7.24%) is a large private school located in the heart of Warri metropolis. The accessibility is easy, the environment is conducive for learning, with the aesthetics attractive to both parents and pupils, with easy and short walk from home to school.

It is interesting to note that two private schools in the rural area, one small (K) and the other large (L) ranked second and third for least attrition rates as low as 10.29 and 11.11% respectively, because dropout rates have been found in earlier studies to be usually higher in rural and small schools (Yoloye, 1975; Adesina, 1980;

Okereke, 1995; Adeyemi, 1998; Duze, 2003). The reason for this low rate could probably be the intervening ownership variable which has apparently not been studied before. It is generally observed that most educated parents residing permanently or for a very long time in rural areas always prefer to send their children and wards to private schools which are usually better equipped and better administered than the public schools. Most of these parents work in companies or organizations that run their own private schools. Schools K and L are probably among those private schools in the rural area where the gigantic Delta Steel Company is situated. The Delta Steel Company, Ovwian-Aladja, with a work force of over three thousand staff owns its own private school, running from pre-primary to senior secondary.

In terms of ownership, the private schools recorded far lower rates of attrition than the public schools with schools J, K, and L recording commendable low attrition rates of 7.24, 10.29 and 11.11% respectively. The highest attrition rates of 36.60, 25.84, and 22.37% were all recorded in public schools C, F, and D respectively. This study was apparently the first to explore this

Table 2. Attrition rates for each of the twelve sampled primary schools in Delta State.

School status	Initial enrolment of cohort (2003/2004)	Final enrolment of cohort (2008/2009)	Cumulative dropout per school in six years	Percentage dropout per school	
A	PUL	744	599	145	19.49
B	PUL	668	562	106	15.87
C	PRS	235	149	86	36.60
D	PRL	608	472	136	22.37
E	PUL	537	420	117	21.79
F	PRS	298	221	77	25.84
G	PUL	389	315	74	19.02
H	PUL	367	296	71	19.35
I	PRS	292	228	64	21.92
J	PrUL	525	487	38	7.24
K	PrRS	243	218	25	10.29
L	PrRL	639	568	71	11.11
Total	12	5545	4535	1010	230.89
*Mean					*19.24

Note: P = public; Pr = private; U = urban; R = rural; L = LARGE; S = small.(example, school status = PUL = public, urban, and large school).

comparison in Nigeria and as such, no studies were found for reference.

Concerning location, the recorded attrition rates in this study were generally higher in rural schools (C, 36.60%; F, 25.84%; and D, 22.37%) than in urban schools (J, 7.24%; B, 15.87; and G, 19.02%). In relation to school size, attrition rates were generally higher in small schools (C, 36.60%; F, 25.84%; and I, 21.92%) than in large schools (J, 7.24%; L, 11.11%; and B, 15.87%). These findings tally with those of earlier studies in Nigeria (Calcott, 1967; Yoloye, 1975; Adesina, 1980; Okereke, 1995; Adeyemi, 1998; Duze, 2003).

It is of note that in all the twelve schools sampled, none recorded attrition rate as high as those found in Okereke's (1995) study of Delta State with records of 69.9, 72.53, 55.22, 42.30, 68.53, 52.24, and 58.45% in her six sampled schools, as well as in the earlier studies in other parts of Nigeria. The findings in this study indicating a general reduction in attrition rates in primary schools when compared with earlier studies are indeed a welcome and encouraging development.

Research question two: What is the average attrition rate in primary schools in Delta State?

The average attrition rate was computed from the differential attrition rates of the sampled schools shown in Table 1, using the statistical mean. This was found to be 19.24%. This value is far lower than what Okereke (1995) found for Delta State (58.45%). The reason could be that she worked in a more or less rural setting where attrition is known to be high. This value is also lower than those found in other parts of Nigeria. For instance, Adesina (1980) found a wastage rate of 31.75% for the highly populated and urban Lagos State, Adeyemi (1998) found

over forty percent in Edo State, while Duze (2003) found attrition rate in Anambra State primary schools to be 56.02%.

The reasons for the lower attrition rate could be that today, the various efforts of government to reduce private costs of schooling, making the school environment more attractive and safe, providing mid-day meals at school, etc may have endeared many parents/guardians (even the pupils themselves) to ensure their children remain in school and complete their programmes. Again, the girls no longer drop into early marriages that much as was in the past. The men that marry many wives are no longer that capable in keeping homes due to the ever-increasing rate of inflation and unemployment. Besides, most modern parents are beginning to appreciate the need to send their girls to school and to make sure they complete their programmes. Also, farming has been abandoned by modern parents and there is now not much need to withdraw children from school to farmlands. These tend to keep more of our children in school thereby reducing the incidence of dropout.

Research question three: What are the mean attrition rates for public and private primary schools in Delta State?

The mean attrition rates for the nine public and three private primary schools were computed from the relevant data presented in Table 2 and the results revealed that mean attrition rate for public schools was 22.47% while that for private schools was 9.55%. This indicated that the average attrition rate for private schools was by far lower than the State's average of 19.24% while that for public schools was higher. This indicated that attrition rates were by far higher in public than in private primary

Table 3. Attrition rates of boys and girls in the twelve sampled primary schools.

School status	Initial cohort enrolment (2003/2004)		Final cohort enrolment (2008/2009)		Cumulative dropout in six years		Percentage dropout		
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
A	PUL	399	345	334	265	65	80	16.29	23.19
B	PUL	387	281	337	225	50	56	12.92	19.93
C	PRS	125	110	81	68	44	42	35.20	38.18
D	PRL	322	286	266	206	56	80	17.39	27.97
E	PUL	304	233	253	167	51	66	16.78	28.33
F	PRS	164	134	134	87	30	47	18.29	35.08
G	PUL	209	180	172	143	37	37	17.70	20.56
H	PUL	196	171	165	131	31	40	15.82	23.39
I	PRS	153	139	130	98	23	41	15.03	29.50
J	PrUL	284	241	265	222	19	19	6.69	7.88
K	PrRS	142	101	131	87	11	14	7.75	13.86
L	PrRL	329	310	305	263	24	47	7.30	15.16
Total	12	3,014	2,531	2,573	1,962	441	569	187.16	283.03
*Mean								*15.60	*23.59

Note: P = public; Pr = private; U = urban; R = rural; L = large; S = small (Example, school status = PUL = public, urban, and large school).

schools in Delta State.

This observed lower rate could be associated with the recent preference of private schools by most parents, including the illiterate parents, for their children and wards. They tend to withdraw their children/wards from public schools and send them to private schools. It has also been observed that most parents whose children are in private schools also work in the private sector in stable locations. They do not face incessant transfers from one station to another like the parents in the public sector hence their children remain and complete their programmes in one school. Also, parents who have paid very high school fees in private schools ensure that nothing must be lost. Besides, private school owners also ensure that they deliver educational objectives effectively and efficiently to earn recognition and honour for their schools, given the high competition amongst private schools in Nigeria. These tend to reduce dropout rates in private schools.

Research question four: What are the mean attrition rates for urban and rural primary schools in Delta State?

The mean attrition rates of the six urban and six rural primary schools sampled were computed from the relevant data presented in Table 2. These rates were found to be 17.13 and 21.36% for urban and rural schools respectively. These rates indicated that while urban schools recorded average attrition rate lower than the entire average of 19.24%, rural schools recorded a higher rate. The finding actually indicated that attrition rates were higher in rural schools than in urban schools. This finding tallied with those of Calcott (1967), Yoloye (1975), Adesina (1980), Okereke (1995), Adeyemi (1998), and Duze (2003). All found that attrition rates

were relatively higher in rural than in urban areas of Nigeria.

Research question five: What are the mean attrition rates for large and small primary schools in Delta State?

The mean attrition rates for the eight large and four small schools were computed from the relevant data in Table 2 and the results were found to be 17.05% for large and 23.66% for small schools, indicating that attrition rates were higher in small schools than in large schools in Delta State. Again, while large schools recorded a slightly lower rate than the average rate of 19.24%, small schools recorded a higher rate. This finding indeed revealed that attrition rates were higher in small schools than in large schools. This agreed with those of Calcott (1967), Yoloye (1975), Adesina (1980), Okereke (1995), Adeyemi (1998), and Duze (2003).

Research question six: What are the mean attrition rates for boys and girls in primary schools in Delta State?

To answer this question, the attrition rates for boys and girls in each of the twelve sampled schools were first analyzed from the data collected and the results presented in Table 3. Then, the mean attrition rates for boys and for girls were computed from the relevant data in Table 3 using the statistical mean.

The mean attrition rates were found to be 15.60% for boys and 23.59% for girls. These results showed that attrition rate was higher for girls than for boys. This finding tallied with those of, Calcott (1967), Adesina (1980), UNESCO (1972), Okereke (1995), Adeyemi (1998), Bahogo and Waila (2000) and Duze (2003).

Also the average attrition rate for girls was higher than the overall Delta State average of 19.24% while that for boys was lower. This trend may not be far from the fact that parents, especially in the rural areas, tend to encourage their male children to complete their schooling in order to maintain the family name, while the girls usually proceed to early marriage abandoning school. This finding, though an improvement from earlier studies which showed large disparities in attrition between boys and girls, is worrisome especially in this age when a lot of girl-children are being encouraged by both government and family to go to school and to complete their programmes. This is an indication that a lot more needs to be done by all stakeholders in education to empower the girl-child in Nigeria.

Conclusion

Older studies conducted in Nigeria have all indicated high percentages in attrition/dropout rate. Calcott (1967) reported the International Labour Organization (ILO)'s Pilot Project dropout rates of 52.5, 55.4, and 58.0% for three respective primary school generations in Nigeria with which Nigeria is pursuing her "vision 20-20-20" with the United Nations' policies of Education for All (EFA) and Millennium Development Goals (MDGs) by 2015 giving her leverage.

RECOMMENDATIONS

If educational planners must make appropriate plans for the present and the future of an effective and efficient educational system, then empirical estimates of wastages and their patterns become most imperative. Since it was observed in this study that there is a gross dearth of research in this area during the review of related literature, this study therefore recommends that researchers should pay greater attention to educational wastage in schools. The rationale for this has been adequately highlighted in the introduction of this study.

Furthermore, it is strongly advised that parents and guardians should endeavour to keep the children and wards they have sent to school long enough to complete their programmes. Every encouragement should be given to them, especially the girl-children, to enroll and to remain in school and perform well in their studies until graduation. Also, all stakeholders in education should come together from time to time at conferences and seminars to address the problems of wastage in Nigerian schools.

REFERENCES

Adesina S (1980). The wastage factor in primary education: A case study of Lagos State primary school leavers W Afr. J. Educ., XXI(1):

- 1-12.
- Adeyemi JK (1998). Analysis of pupil's wastage in Oredo Local Government Area 1990-1994. *Benin J. Educ.*, 1(1): 1-8.
- Avoseh O (1975). Constraints on efficient schooling in Sub-Saharan Africa. *Afr. J. Educ. Res.*, 2(1): 23-34.
- Bahogo BA, Waila MKA (2000). Girls' enrolment and dropout in Kaduna State primary schools: Challenges for UBE. Paper presented at the National Conference of Nigeria Academy of Education, at the University of Benin.
- Beeby CE (1973). *The quality of education in developing countries*. Massachusetts: Harvard University Press.
- Blaxter L (1999). Enrolment: Joining, staying or leaving. *Adult Learn.*, 10(6): 12-19.
- Calcott D (1967). Interim report on education in rural area of Western Nigeria. Ibadan: International Labour Office Mission, Ministry of Economic Planning and Social Development.
- Davies P (2001). Student retention in further education: A problem quality or of student finance? Paper presented at the annual Conference of British Educational Research Association, University of Sussex.
- Duze CO (2005). The production theory in education. *The Nig. Academic Forum: A Multi-Disciplinary J.*, 8(2): 11-16.
- Duze CO (2003). Attrition rate in primary schools in Anambra State, Nigeria. (Unpublished Manuscript, Delta State University, Abraka).
- Fafunwa B (1984). The National Policy on Education: Some factors militating against implementation. *J. Nig. Educ. Res. Assoc.*, 4(1): 1-9.
- Federal Republic of Nigeria (2004). National Policy on Education (Revised, 2004): Lagos: NERDC Press.
- Federal Republic of Nigeria (2000). Federal Government implementation guidelines: UBE (2000). Abuja: Federal Ministry of Education.
- Federal Republic of Nigeria (1970). Second National Development Plan (1970-1974). Lagos: Federal Ministry of Finance.
- Kosemani K (1985). Planning for effective staffing in Nigerian primary schools: Research, administration, children and media. *J. Nig. Educ. Res., Assoc.*, 5(2): 95-100.
- Levin A (1971). In Oguntoye OO (1999). Input output analysis in a Nigerian secondary school system. *J. Stud. Educ.*, 3(1): 18-25.
- Lunenburg FC, Ornstein AC (1991). *Educational Administration: Concepts and Practices*. California: Wadsworth Publishing Company.
- Martinez P (1997). Student persistence and dropout: Implication. Paper presented at the America Educational Research Association Annual Conference, University of Florida.
- Mkpa NDE (2000). Assessment of gender differences in primary school enrolment in Abia State: Implication for Universal Basic Education. Paper presented at the 15th Congress of the Nigeria Academy of Education, at the University of Benin.
- Niger Delta Development Commission (NDDC) (2002). The state of education in the Niger Delta area of Nigeria. A report prepared by the Directorate of Information and Community Services and submitted to the Senate Committee on Education of the National Assembly.
- Nwadiani M (1998). *Educational management for Sub-Saharan Africa*. Benin-City: NSEP in Association with Monose Amalgamates.
- Oguntoye AO (1983). Input output analysis in a Nigerian secondary school system. *J. Stud. Educ.*, 3(1): 18-25.
- Okereke VE (1995). Differential attrition rate for some selected primary schools in Delta State of Nigeria. *J. Res. Educ.*, 1(1): 165-170.
- Payne JC (2000). Student success rates in post-16 qualifications: Data from the England and Wales Cohort Study. London: Department of Education and Employment.
- Thomas AJ (1971). *The productive school*. New York: John Wiley.
- Pauli L, Brimer MA (1971). *Wastage in education: A world problem*. New York: UNESCO/IBE.
- UNESCO (1994). *The Dropout Problem in Primary Education: Some Case Studies*. Regional Office for Education in Asia and the Pacific: UNESCO.
- UNESCO (1993). *Trend and Projections of Enrollment Level of Education by Age and Sex 1960-2025*. Paris: UNESCO.
- UNESCO (1972). *Studies and Survey in Comparative Education: A Statistical Study of Wastage at School*. UNESCO Office of Statistics/IBE.

UNESCO (1962). In Adesina S (1980). The wastage factor in primary education: A case study of Lagos State primary school leavers. *W. Afr. J. Educ.*, XXI(1): 1-12.

United Nations Education Commission for Africa (UNECA) (1994). Manual for the integration of population factors in human resource development with particular reference to Educational Sector Planning. Population Studies Series. Addis Ababa: UN.

Yoloye EA (1975). The pattern of dropout in Ibadan primary schools. *Afr. J. Educ. Res.*, 2(1): 1-9.

World Bank (2001). World Development Indicators. Washington D.C.: The World Bank.