

Analysis of educational wastage rates in secondary schools in Anambra state

Unachukwo Glad O¹, Amaonye Chinenye B²

^{1,2} Department of Educational Management and Policy, Faculty of Education, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

Abstract

In the states of the federation, Anambra inclusive, one major problem confronting secondary education is that children who enrolled in school fail to complete their course successfully after spending some more years more than the prescribed duration, while those who enrolled in school due to some socio-economic reasons had left their studies before completion of their education, a situation which is considered as wastage in education. Wastage constitutes a management problem and drains the limited resources available to education. In view of that, this study was carried out to analyse the educational wastage in secondary schools in Anambra state. The study adopted the descriptive survey research design. The study covered 225 secondary schools comprising public and private secondary schools drawn from the six education zones in the state using stratified and simple random sampling techniques. Three research questions guided the study. Data were collected through the use of a researcher designed inventory proforma titled the Analysis of Wastage Rate in Secondary Schools in Anambra State. The Proforma is divided into which two sections; A and B. Section A contains biodata of the schools while section B contains four items specifying enrolment, promotion, repetition and dropout rates. The instrument was validated by experts who are lecturers in the Faculty of Education, Nnamdi Azikiwe University. A reliability coefficient of 0.833 for the instrument was obtained using Cronbach Alpha for the test of internal consistency. The researcher used 'on the spot' method to collect data from the respondents. Data were analyzed using frequency counts, simple percentage scores and bar graphs. The study revealed that there is low rate of wastage in private secondary schools compared to public secondary schools, and that wastage rate was low in all years with SS1 and SS3 having the highest rate in the state, among others. It was found out that Otuocha zone has the highest rate of wastage compared to other zones. Based on the findings, it was recommended that there should be increased funding to education, utilization of facilities in the schools should be improved optimally, among others. Conclusions as well as implications for the study were drawn and suggestions made for further study.

Keywords: wastage, secondary school, public and private schools

Introduction

Globally, education is the foundation for intellectual advancement of humanity. It is the key to change and the progress of any nation. It is one of the building blocks for human development which has a formative effect on the mind and character and accelerates the development of knowledge, skills and attitude (Oyedeji, 2015). What this means is that education equips one with sound mind to think creatively and holistically, and skills to be useful to one self in particular and the society at large. In line with these, the Federal Government of Nigeria (2013) stated that education is an instrument 'par excellence' for effecting national development. The importance of education is increasing and cannot be overemphasized. This is why emphasis is placed on Universal Basic Education (UBE) which was revised in 2004 to introduce the educational system of 9-3-4. The 9-3-4 structure requires 9 years of basic education (which combines 6 years of primary education and 3 years of junior secondary education), 3 years of senior secondary education and a minimum of 4 years of tertiary education. Its aims include eradicating illiteracy, ignorance and poverty as well as stimulating and accelerating national development, political consciousness and national integration. The UBE Programme is Nigeria's strategy for the achievement of Education for All (EFA).

According to the Federal Government of Nigeria (2013) UBE is classified into three: three years of early child care

development and education, six years of primary education (lower basic) and three years of upper basic which is also referred to as junior secondary education. Upper Basic Education is an education given to pupils after the completion of primary education. It is expected that after the completion of primary education (Lower Basic Education), the child will transit to the next level which is the upper basic education.

The upper basic education is aimed at reducing the incidence of drop-out from the formal school system, through improved relevance, quality and efficiency (Federal Government of Nigeria, 2013). It is expected that after the completion of the basic education, every child should have acquired appropriate and relevant skills and values; and be able to contribute his or her quota to national development (Etuk, Ering & Ajake, 2012)^[9]. In view of the programme, the Federal Government of Nigeria, (2004), expects 100% transition from primary level to upper basic education in any given academic year. What this means is that given the financial investment in education sector, the governments especially Anambra state expects that every child that enrolled in primary education (lower basic education) will successfully undertake the subjects and complete the duration of the study after which he/she will proceed to the next level which is upper basic education but this has not been the case. In like manner, it seems that transition from the upper basic (junior secondary) to the senior secondary

school is equally experiencing a very low percentage as many students who complete the upper basic for one reason or the other seem not to transit to the next level. In the words of Ajayi and Mbah (2008) ^[4], when transition is less than expected, there is wastage.

Wastage is an economic term which is used in the field of education to describe various aspects of failures that occur in the educational system which militate against the achievement of educational objectives. This agrees with the assertion of Akpan (2001) that wastage hinders the achievement of educational goals of any nation. Wastage in education can be seen as a situation whereby the number of pupils/students who enrolled in a particular level of education fail to complete the duration of the study as a result failed to transit to the next level of education. According to Derbe, Endale and Ashebir, (2015) ^[8], educational wastage occurs when educational objectives are not realised. This corroborate with Idowu (2002) who argued that wastage in education occurs as a result of inefficient use of educational resources: teachers, labour, school building and equipment among others. This entails that if materials including personnel meant for education are not properly utilized for the purpose of education, the materials will likely be wasted for lack of use. Likewise, if the personnel handling education are sufficiently engaged in the differing specialties in processes of education, they may likely get bored, lose interest in their job and at the same become dormant. Wastage can occur in two ways; material and human. Material wastage occurs when materials meant for education are not optimally utilized for the purpose of education while human wastage occurs when educational personnel are assigned other responsibilities other than their specialties. This agrees with Odu (2013) who identified two types of educational wastage which include human resource and material wastages.

Human wastage occurs when students repeat class(s), the materials such as exercise books, textbooks, writing tools, and other materials used by the students would have been wasted. In addition, Odu (2013) stated that material wastage is concerned with underutilization of tools, equipment and materials on a particular task or operation for a given job. Further, Odu stressed that wastage entails damages or destruction of equipment or use of wrong tools for right job and vice versa. These materials are very necessary for effective instructional delivery in education. These materials in most cases may or may not be available for use; and in most cases when these materials are available, they may not be adequate, and will likely have effects on teaching and learning processes and constitute an element of wastage, since the expected learning outcomes, objectives and goals may not be achieved in education (Usen, Udofia & Offiong, 2012).

Moreso, human resource wastage occurs when students repeat class(s), the efforts the teachers and other staff who taught the students who repeated classes amounted to wastage. According to Gupta, Prasada and Gupta (2013) wastage occurs when children enrolled in school fail to complete their course successfully after spending some more years more than the prescribed duration,

Wastage adversely affects the productivity of the teaching personnel. Odu (2013) conceived it as the underutilization of personnel in handling education. This is a situation where professionals with requisite skills in certain areas are not

allowed to function in their areas of specialization, but are rather given administrative functions. Supporting this, Usen, Udofia and Offiong (2012) asserted that it is sheer waste of skills where an engineer is appointed to head the Ministry of Health rather than Ministry of Works and Housing. In the same view, a specialist in mathematics should be given mathematics to teach to ensure effectiveness and total instructional delivery, but a situation where the available skilled manpower is not given the opportunity to apply the skills fully in their area of specialty for intellectual development of the learners' interest. Corroborating this view are the findings of Akolo (1998), Gbadamosi (2014) and Mumina (2013) all of which confirmed that the root cause of failure in secondary schools is a fall-out of inadequately trained teachers and non-provision of the needed instructional material which consequently contribute to the apparent poor students' academic performance and thereby reducing graduation rates in public secondary schools in Nigeria. In addition, Akinsolu (2005) and UNICEF (2011) stated that in predicting factors that signal students failure in subjects, teachers' poor attitude, inability to pay fees due to parental socio-economic status among others may cause low academic ability resulting in repetition, failure and drop out of school by students.

Gupta, Prasada and Gupta (2013) classified educational wastage into two: internal educational wastage and external educational wastage. According to the authors, internal educational wastage occurs when children enrolled in school fail to complete their course successfully after spending some more years more than the prescribed duration, while external wastage occurs when children enrolled in school due to some socio-economic reasons had left their studies before completion of their education. In other words, internal wastage occurs when children spend more than the stipulated number of years in completing a given duration of study which is as a result of repetition of class, while external wastage occurs when children drop out of the school system. This corroborate with Ajayi and Mbah (2008) ^[4] who posited that the problem of wastage in education arises in many developing nations as a result of high percentages of students who repeat classes and those who drop out of school.

Educational wastage has been observed in all over Nigeria has become a syndrome in certain states of the federation which Anambra is not an exemption. It has been observed in Anambra state that a good number of pupils/students who enrolled in school fail to complete their course successfully after spending some more years more than the prescribed duration, while those who enrolled in school due to some socio-economic reasons had left their studies before completion of their education; a situation which has been referred to as wastage in education (Oyetakin & Odunayo, 2013). In the view of Oyetakin and Odunayo (2013) educational wastage emanates from dropout and repetition. This agrees with the assertion of Derbe, Endale and Ashebir (2015) ^[8] that repetition and dropout rates are commonly used parameters of measuring educational wastage of any education system.

One of the major problems confronting education is wastage. It occurs when the educational objectives are not realised. According to Adamu (2000) educational wastage is an unprofitable and uneconomical utilization of time and resource. Related to this is the view of Idowu (2002) that

wastage in education is the inefficient use of educational resources: teachers, labour, school building and equipment among others. This occurs when an investment preparation (in education) does not produce either its desired or anticipated results or produce result at a scale, considerably lower than it has set for itself. Okwelle and Nwogu (2007) view educational wastage as the degree to which the actual educational output fails to respond with stated goals of education within a given period of time. Obi and Ogar (2009) refer to wastage in education as a situation where one does not maximize his or her education or employment or productivity. The authors view education as a waste when one is not able to put into practice what he/she has acquired from education. In other words, wastage in education is defined as none profitability of one's investment that has a very high wastage rate.

Babalola (2014) argued that the term 'wastage' applied to education as an unfamiliar ring and educationists may object to it as a depersonalizing of what is essentially an individual growth process. In their own contribution, Oyetakin and Odunayo (2013) opine that educational wastage emanated from dropout and repetition. This means that the major components of educational wastage are repetition of class and drop out. For the purpose of this study, educational wastage occurs when human, material and financial resources meant for education are not optimally and efficiently utilized. When this is not achieved, it could result to poor performance of students,

Wastage is an indication of inefficiency of educational system which occurs as a result of inability of the education system to turn out graduates with minimal wastage. Muia (2015) defined educational wastage as a combined effect of repetition and drop out. This means that repeating class and dropping out of school constitute wastage in education. According to Jayeeta (2015), wastage means drop out of pupils i.e. leaving in schools before completing the primary course. He identified economic factors (poverty), social factors (illiterate parents, gender disparity, early marriage and co-education system), education factors (inadequate provision of instructional materials, lack of help the contact between parents and teachers, ignorance on the part of parents on the importance of education, curriculum not in consonance with reality, lack of attention to the children, the environment not meeting the psychological needs of children, dull and boring teaching methods, negligence of the teachers, fear of examination etc.), defective administration factor (lack of implementation of educational objectives, low standard of teachers. Others include bad environment, ill health, illiteracy of the parents and guardians, natural calamities.

Odu (2013) affirmed that strike actions by either teaching or non-teaching staff personnel in vocational, technical schools and colleges can interrupt academic calendar which constitutes a serious source of wastage. He also observed that the years of graduation may be prolonged thereby depriving the nation of her manpower needs. He added that the effect of strike is that school building, workshops, laboratories and the equipment are left dilapidated. Basumatary (2012) stated that the common reason for wastage in education includes poverty, early pregnancies, HIV/AIDS, drug abuse, among others. He stated that pregnancy out of wedlock may force the students to drop out of school in order to avoid humiliation by peers.

Usen, Udofia, and Offiong (2012) asserted that proliferation of unskilled manpower in education is the reason for the collapse of these objectives and goals of education. They posited that inadequate supply of both human and material resources to education programmes seems to constitute wastage. Commenting further, they stated that strike actions by teachers have serious effects on the school system and students are mostly affected. It distorts the school calendar thereby resulting to the inability of the school to cover the syllabus.

In line with the above assertion, Ordu and Usoro (2010) stressed that underutilisation of human and material resources contribute significantly to educational wastage. They further stated that in most secondary schools, there are equipment and facilities waiting to be installed, and such facilities are left under the sun and rain to waste away, coupled with lack of electricity or not being connected to power source can render equipment useless.

Oputa (2008) argued that functional facilities enable schools and society to achieve the educational goals and where those things are not provided, the result is the production and proliferation of unskilled manpower class on a sustained bases and accelerated rates of wastage of the technical know-how of instructors in education programmes. What this means is that lack or inadequate functional facilities could lead to the production of unqualified or unskilled manpower which constitutes shortage of manpower as well as leads to wastage.

Purpose of the study

The main purpose of the study was to analyse educational wastage rates in secondary schools in Anambra State. Specifically, the study sought to:

1. Analyse the educational wastage rate in secondary schools in Anambra State based on year of study.
2. Analyse the educational wastage rate in secondary schools in Anambra State based on education zone.
3. Analyse educational wastage rate in public and private secondary schools in Anambra state.

Research Questions

1. What are the rates of educational wastage secondary schools in Anambra State based on year of study?
2. What are the rates of educational wastage in secondary schools in Anambra State based on education zone?
3. What are the rates of educational wastage in public and private secondary schools in Anambra state?

Methodology

This study adopted descriptive survey research design. A descriptive research is aimed at collecting data on, from a representative as a population and describing in a systemic manner the characteristics, features or facts about a given population studied and findings are generalized to the entire population (Nworgu, 2015). The study was carried out in Anambra state. There are six education zones in the state; Aguata, Awka, Nnewi, Ogidi, Onitsha, and Otuocha zones. The population for the study consisted 781 principals, 257 in public and 524 in private secondary schools in the six education zones (Aguata, Awka, Nnewi, Ogidi, Onitsha, and Otuocha zones) in Anambra State (Anambra State Post Primary School Service Commission, Awka, June, 2016). The choice for principals was dependent on the fact that

principals are the administrative heads in secondary schools and so are in a good position to give reliable information on wastage. The sample for the study consisted of 235 respondents who are all principals of secondary schools in Anambra State. This comprised 78 from public secondary schools and 158 from private secondary schools. The sample consisted 30% of the population. The choice for 30% is in line with Nworgu (2015) who recommended that 30% to 80% of the population is adequate for a research work if the parameters of the population must be fully investigated. The sample was composed using proportionate stratified sampling and simple random sampling techniques. The schools were stratified based on public and private secondary schools under already existing education zones in the state. Thirty per cent of the schools in each zone under each school type (public and private) were sampled. This translated to 235 secondary schools, 77 public and 158 private secondary schools. The schools for each zone were then sampled using simple random sampling technique, specifically balloting with replacement. The principal of each school drawn was automatically sampled. The instrument for data collection was a researcher developed instrument titled ‘Analysis of Wastage Rates in Secondary Schools in Anambra State (AWRSSAS) from 2010/2011 academic session to 2015/2016. Table 1-2 showed details. The data collected were analysed using frequency counts, percentages (formula for repetition rate) Wastage Rate is calculated thus:

$$W_t = \frac{E_t - p^{1+1}}{E_t} \times \frac{100}{1}$$

w_t = Wastage Rate
 p_t = Promotion Rate
 e_t = Enrolment Rate

Table 1: Sample Distribution of Principals in Secondary Schools in the Zones in Anambra State.

S/N	Zones	No. of Principals Sampled in Public Sec. Schools.	No. of Principals Sampled in Private Sec. Schools.	Total No. of Principals Sampled.
1	Aguata	14	17	31
2	Awka	18	18	36
3	Nnewi	15	38	53
4	Ogidi	12	37	49
5	Onitsha	10	38	48
6	Otuocha	8	10	18
	Total	77	158	235

(Anambra State Post Primary School Service Commission, Awka, June, 2016).

Results

Research Question 1

What are the Rates of Educational Wastage in Secondary Schools in Anambra State from 2010/2011 -2015/2016 academic sessions based on Year of Study?

Table 2: Rate of Educational Wastage in Secondary Schools in Anambra State from 2010/2011 -2015/2016 academic sessions based on Year of Study

Source of Variation Acad		Enrolment No		No. of	No. of	Wastage
Year of Study	Year	Promoted	Dropouts	Repeaters	Rate	
JSS1	2010/2011	7772	7772	0	0	No wastage
JSS2	2011/2012	8157	8128	21	8	High Rate
JSS3	2012/2013	8175	8116	24	35	High Rate
SSS1	2013/2014	7795	7311	41	443	Higher Rate
SSS2	2014/2015	7750	7668	26	56	High Rate
SSS3	2015/2016	6911	6072	04	835	Highest Rate
Total		46,560	45,067	116	1,493	Highest Rate

Results on Table 2 indicated the rate of educational wastage in secondary schools in Anambra State based on year of study. The results further revealed that the group had wastage rate of 12.72% in SS3 being 2015/2016 academic session than in all other academic years. Therefore, it could be concluded that SS3 recorded the highest rate of wastage in education in secondary schools in Anambra State for the

period under study based on year of study.

Research Question 3

What are the Rates of Educational Wastage in Secondary Schools in Anambra State from 2010/2011 -2015/2016 academic sessions based on Education Zone?

Table 3: Rate of Educational Wastage in Secondary Schools in Anambra State from 2010/2011 -2015/2016 academic sessions based on Education Zone

Source of Variation	Enrolment	No. of	No. of	No. of	Wastage	Remarks
Education Zone		Promoted	Dropouts	Repeaters	Rate	
Aguata	7403	7169	217	17	3.16	High Rate
Awka	17356	16905	420	31	2.6	High Rate
Nnewi	9062	8740	291	31	3.55	High Rate
Ogidi	8140	7842	267	25	3.59	High Rate
Onitsha	10437	10099	313	19	3.18	High Rate
Otuocha	2472	2385	72	15	3.52	High Rate
Total	54,870	53,140	1,580	138	19.6	High Rate

Results on Table 3 indicated the rate of educational wastage in secondary schools in Anambra State for the period under study based on education zone. The results revealed that Ogidi with 3.59% had the highest rate of wastage followed by Nnewi and Otuocha zones 3.55% and 3.52% respectively. Therefore, it was concluded that the rate of wastage in education in secondary schools in Anambra State

for the period under study based on education zone was highest in Ogidi zone.

Research Question 3

What are the Rates of Educational Wastage in Public and Private Secondary Schools in Anambra State from 2010/2011-2015/2016 academic sessions?

Table 4: Rate of Educational Wastage in Public and Private Secondary Schools in Anambra State from 2010/2011-2015/2016 academic sessions

Source of variation	Enrolment	No	No. of	No. of	Wastage	Remarks
School Type		Promoted	Dropouts	Repeaters	Rate	
Public Schools	25031	24406	85	540	2.5	Higher Rate
Private Schools	21529	20649	38	842	4.09	Higher Rate
Total	46,560	45,055	123	1,382	6.59	High Rate

Results on Table 4 indicated the rate of educational wastage in public and private secondary schools in Anambra State. The results further showed that educational wastage occurred most in private secondary schools (4.09%) than in the public secondary schools (2.5%). Therefore, it was concluded that private secondary schools had the highest wastage rate in Anambra State was for the period under study.

The findings revealed that educational wastage occurred mostly in SS3 and SS1 classes. This showed that students repeated classes and dropped out of school more in SS1 being in the 2013/2014 than in other classes. This agrees with this, Ajayi and Mbah (2008) ^[4] who argued that educational wastage arises as a result of high percentage of students who repeat classes and those who drop out of schools. Gupta, Prasada and Gupta (2013) concurred with the above statement and opined that external wastage occurs when children who were enrolled in the schools, due to some socio-economic reasons had left their studies before completion of their education.

Another finding on the rate of wastage in secondary schools in Anambra state based on education zone revealed that Ogidi zone recorded more wastage compared to other zones. This could be as a result of lack of or obsolete facilities in the schools. Most of the secondary schools in the zone, as observed by the researcher, lacked facilities such as poorly equipped laboratories and libraries as well as inadequate classrooms and this may account for this finding. This is in line with Ajayi (2007) who maintained that a high level of students' academic performance may not be guaranteed where instructional space such as classrooms, libraries, technical workshop and laboratories are inadequate. The finding is also in line with Alimi, Ehionla and Alabi (2012) who reported in their studies that the deplorable state and nature of school facilities create uncondusive teaching and learning environment. The cause may not be unconnected with inadequate educational resources as well as underutilization of available ones in the secondary schools. This agrees with the finding of Munyi and Orodho (2015) that lack of enough resources in the school affected the quality of teaching and learning resulting into low pupils' academic achievement as well as increased dropout, repetition, low completion and transition rates.

In addition, the findings revealed that the rate of educational wastage in secondary schools in Anambra state was generally low with private secondary schools recording more wastage than public secondary schools. This could be

attributed to the fact that parents. This indicated that there was more wastage in private secondary schools than in public secondary schools. This will definitely affect the achievement of education goals in the state. This corroborates with Derbe, *et al.*, (2015) and Akpan (2001) who asserted that educational wastage occurs when educational objectives are not realised; and that wastage hinders the achievement of educational goals of any nation. Since private schools recorded more number of repeaters and dropout, it becomes logical for the private schools to have more wastage because educational wastage is a combined effect of repetition and dropping out.

Conclusion

From the discussion of the findings of the study, it has been revealed that generally the rate of education wastage in secondary schools in Anambra State was low, but relatively more in private secondary schools than in public secondary schools, and occurred mostly in SS3 and SS1. It was as a result of high number of students who repeated classes and those who dropped out of school. Failure to put in adequate measures on how to reduce wastage in public and private secondary schools in Anambra State would not only deter the achievement of educational goals in the state, but it would also reduce the number of students expected to graduate from the secondary school system at any given period of time which will ultimately increase illiteracy rate in the state. Thus, the authorities in charge of education need utilize the limited resources meant for education optimally or maximally to achieve the goals of education in the state in order to eliminate the incidences of wastage in the secondary school system in the state.

Recommendations

Based on the findings of this study, the following recommendations were made:

4. The school administrators should ensure that all the facilities in the school including instructional materials are effectively utilized to enhance teaching and learning process.
5. Teachers in the secondary school system should be assigned teaching subjects according to their specialties to enhance their effectiveness.

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