



FACTORS RESPONSIBLE FOR EDUCATIONAL WASTAGES AMONG SENIOR SECONDARY SCHOOL SCIENCE STUDENTS IN CROSS RIVER STATE, NIGERIA

Ndem Nsungo Udo and Bassey E. Eni

¹Physics Department, Cross River State College of Education, Akamkpa

²Department of Mathematics, Cross River State College of Education, Akamkpa

ABSTRACT: *This study was descriptive survey study carried out in Southern Cross River State, Nigeria. The study has aimed at finding out factors that influence educational wastages among senior secondary school science students in Cross River State. Three hundred science teachers were randomly selected from secondary schools in the study area. The instrument for data collection was the Determinants of Educational Wastages in Secondary Schools Questionnaire (DEWSSQ). The instrument had a construct validity of 0.76 using Cronbach Alpha. The instrument was administered on the respondents and the data collected were analyzed using mean, standard deviation and chi-square. The mean and standard deviation were used to answer the research questions while the chi-square was used to test the hypotheses. The results of the study showed that economic-related factors, government-related factors, school-related factors, home-related factors and gender-related factors were found to have accounted for educational wastages. All the hypotheses were rejected at 0.05 level of significance because in all the cases, the calculated chi-square were higher than the critical value. The paper thus recommended among others the recruitment of qualified science teachers into the school system, adoption of innovative teaching methods in the classroom and the provision of instructional materials in the secondary schools.*

KEYWORDS: Educational Wastage, Senior Secondary School, Science Students, Nigeria

INTRODUCTION

Education all over the world had been identified as a vital instrument that promotes socio-economic development of the nation and the individuals. Education is seen as the instrument that empowers an individual to contribute his/her quota to national development. Education empowers individuals to live a more productive life and a prime mover to lift themselves above poverty line and also a major means of social mobility. Nations invest in the education sector with the hope to reap the dividends in the future. Thus Kebede, Demissie and Estifanos (2015) sees investment in formal education as a pre-condition to future economic growth and added that investment in education brings higher rate of return than investment in physical capital. This is why governments all over the world invest a lot in education with the hope to reap the dividends in the future.

The education system is divided into cycles: The Primary, Junior Secondary, Senior Secondary and the Tertiary Levels. At any cycle in the education system, any student who starts a particular cycle is expected to complete that cycle of education within the prescribed



period. But field experience has shown that this had not been the case. Students/pupils who started a particular educational cycle had been found not to complete that cycle of study. This is called Educational Wastage.

Educational wastage means pre-mature withdrawal of a student from school without completing the educational cycle. Since the student does not complete the cycle of education, the time, money and energy expended on such a student is said to be wasted. The Union of International Associations (UIA, 2017) identified wastages in education to include; school dropouts, pre-mature school leaving, repetition of educational stages, under-performance of the education sector and educational underachievement. Based on the above, a school dropout is seen as a pupil/student who leaves school before the end of the final year of the educational stage in which he/she enrolled. Thus a student who successfully completed the secondary school education and has the required credits and passes but does not further his studies does not constitute school dropout. Repeating a class implies the student has utilized more resources than that which had been allocated to the student. Leaving school before completing is wastage of resources because the investment by the government for that period of years that the student was in school is wasted. This is because the student continues to depend on the sponsors and could not be useful to either himself or the society. Another dimension of educational wastage is when a student completes that particular cycle of education but no certificate at the end e.g if a student fails the West African School Certificate Examination. All these constitutes educational wastages because it depletes the educational resources (Rajesh and Roy, 2014).

UIA (2017) identified factors such as educational costs, early marriages, the need for children to assist parents at home and death of one of the parents, among others, as factors contributing to educational wastages. The consequences of educational wastages include joblessness, less income earnings, increase in criminality, public dependency and poor health (Samuel, 2017).

In Cross River State, UNESCO (2012) report revealed that about 38% of the population of the state are illiterates, most of which constitutes school dropouts or premature withdrawal from school. Also UNESCO (2017) report describe Nigeria as “the country that is home to the largest number of out-of-school children in the world. According to the report about 10.5 million children in Nigeria are out of school and this accounted for almost one-fifth of the world’s out-of-school children. This paper thus intends to find out factors responsible for premature termination of schooling among senior secondary school science students in Cross River State, Nigeria.

Purpose of the Study

The general purpose of the study is to find out factors responsible for educational wastages among secondary school science students in Cross River State. Specifically, the study intends to find out:

- i) Economic-related factors responsible for educational wastages.
- ii) Government-related factors responsible for educational wastages
- iii) School-related factors responsible for educational wastages



- iv) Home-related factors responsible for educational wastages
- v) Gender-related factors responsible for educational wastages.

Research Questions

- 1) What are the effects of economic-related factors on educational wastages?
- 2) What are the effects of government-related factors on educational wastages?
- 3) What are the effects of school-related factors on educational wastages?
- 4) What are the effects of home-related factors on educational wastages?
- 5) What are the effects of gender-related factors on educational wastages?

Research Hypotheses

HO₁: There is no statistically significant relationship between economic-related factors and educational wastages.

HO₂: There is no statistically significant relationship between government-related factors and educational wastages.

HO₃: There is no statistically significant relationship between school-related factors and educational wastages.

HO₄: There is no statistically significant relationship between home-related factors and educational wastages.

HO₅: There is no statistically significant relationship between gender-related factors and educational wastages

Research Method

The study is descriptive survey study carried out in southern Cross River State. Cross River State is one of the six states in the south-south geopolitical zone of Nigeria. The state consists of three sections viz: Northern, Central and Southern Cross River State.

The sample for the study consisted of three hundred (300) science teachers randomly selected from secondary schools in southern Cross River State. The instrument for data collection was tagged Determinants of Educational Wastages in Secondary Schools Questionnaire (DEWSSQ). The questionnaire consisted of two parts: Part A and Part B. Part A consisted of personal information about the science teacher while part B is a thirty item questionnaire which is divided into sections one to 5. Section one deals with economic-related factors, section two deals with government-related factors, section 3 is on school-related factors, section 4 on home-related factors while section 5 is on gender-related factors. The Part B of the questionnaire is framed and weighted on a four point likert scale of Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1). The average of these points is 2.50, therefore any item with a score of 2.50 and above was accepted and an item with score of below 2.50 was rejected.



The questionnaire was trial-tested using fifty teachers in central Cross River State. The results of the trial-test were analyzed using Cronbach Alpha and a reliability index of 0.76 was obtained, showing that the instrument was reliable enough for the study.

RESULTS

The results of the study are as presented below:

Research Question One:

What is the effect of economic-related factors on educational wastages?

Table I: Mean and Standard Deviation of Economic-Related Factors

S/N	Item	\bar{X}	SD
1.	Children withdrawn from school to work and earn income for the family	3.30	1.01
2.	Lack of finance for school fees and purchase school materials	3.27	0.98
3.	Low economic value of education as perceived by parents	3.15	0.75
4.	Lack of employment opportunities for school leavers	2.87	0.68
5.	Child labour at home	2.99	0.83
Grand Mean/Standard Dev.		3.12	0.85

The result in Table I showed that economic factors affected wastages in secondary school science students. Students were withdrawn to work and earn income for the family, due to parents poor income they could not finance or purchase school materials for their wards. The low economic value of education as compared to learning of trades and unemployed school leavers has contributed to parents withdrawing their children from school. All the factor enumerated had a mean score of above 2.50 and were therefore found to have contributed to premature leaving of school by students.

Research Question Two:

What are the effects of government-related factors on educational wastages?

Table 2: Mean and Standard Deviation of Government-Related Factors

S/N	Item	\bar{X}	SD
1.	Poor implementation of educational policies	2.22	0.51
2.	Voluminous science syllabus which makes it difficult for teachers to cover	2.82	0.70
3.	Lack of innovative curriculum content to meet children daily experience	2.87	0.81
4.	Inadequate funding of schools by government	2.69	0.69
5.	Inadequate school infrastructure	2.87	0.76
6.	Inadequate qualified science teachers	3.03	1.10
7.	Frequent changes in government policies	2.93	0.90
Grand Mean/Standard Dev.		2.77	0.78



From Table 2 above only poor implementation of educational factors was observed as not government-related factor affective educational wastages. This is because is the mean for the item was found to be below 2.50. However, the grand mean of 2.77 showed that government-related factors influence educational wastages.

Research Question Three

What are the effects of school-related factors on educational wastages?

Table 3: Mean and Standard Deviation of School Related Factors

S/N	Item	\bar{X}	SD
1.	Poor teacher attitude in the classroom	2.90	0.80
2.	Harsh school principals' administrative policies	2.60	0.90
3.	Trekking long distances to school	2.90	0.73
4.	Over-crowded classrooms	2.94	0.82
5.	Lack of instructional materials to teach science subjects	3.00	1.12
6.	Harsh school rules and regulations which lead to children hating school	2.94	0.90
7.	Teachers failure to motivate students to study science	2.99	0.95
Grand Mean/Standard Dev.		2.90	0.89

All the factors enumerated above were found to have influence on educational wastages. This is because their mean score was above average of 2.50.

Research Question Four:

What are the effects of home-related factors on educational wastages?

Table 4: Mean and Standard Deviation of Home-Related Factors

S/N	Item	\bar{X}	SD
1.	Large family size	2.89	0.65
2.	Single parenthood	3.10	1.11
3.	Over indulgence of children in domestic work	2.95	0.98
4.	Parents' level of education/income	2.85	0.89
5.	The nature of home environment	2.58	0.63
Grand Mean/Standard Dev.		2.87	0.85

From table 4 above, all the factors were found to influence school wastages. The grand mean of 2.87 also showed that home-related factors influence educational wastages.

Research Question Five:

What are the effects of gender-related factors on educational wastages?

**Table 5: Mean and Standard Deviation of Gender-Related Factors**

S/N	Item	\bar{X}	SD
1.	Influence of early marriages on female students	3.03	1.02
2.	Teenage pregnancy due to pre-marital sex	3.35	1.12
3.	Cultural preference of continuous schooling of boys at the expense of girls	2.83	0.93
4.	Preference of female children to look after the younger ones	3.92	1.10
5.	Peer influence on the boy-child which leads to withdrawal from school	2.84	0.98
6.	Lack of interest by parents on the girl-child continuous education	2.93	0.87
Grand Mean/Standard Dev.		2.77	0.78

Results in table 5 showed that gender-related factors influence secondary school science students dropping out of school.

Hypotheses:

The hypothesis 01 – 05 were all tested using chi-square. All the hypotheses were tested at 0.05 level of significance

Table 6: Chi-Square of the Factors that Influence Education Wastages

	Economic-related factors	Government-related factors	School-related factors	Home-related factors	Gender-related factors
Chi-square	250.46	217.75	79.45	118.68	176.59
Df	12	18	18	12	15
Crit-value	21.03	28.87	28.87	21.03	25.00
Decision	Significant	Significant	Significant	Significant	Significant

The analysis in table 6 showed that there is a significant difference between economic factors, government-related factors, school-related factors, home-related factors and gender-related factors and educational wastages in Cross River State. This is because in all the cases the calculated values were higher than the critical values. Hence all the null hypotheses were rejected at 0.05 level of significance.

DISCUSSIONS

The education system is like a cycling system that receives input from the environment (society) and after processes discharges the output (products) back to the environment (Akinsolu, 2017). It is the output that will determine to what extent the raw materials had been refined or processed. These inputs include pupils, teachers, facilities and funding. The output depends on the effective application of these inputs and where the input is



ineffectively and inefficiently applied, the output could be below expectation which manifest itself in educational wastages.

The findings of this study revealed that a lot of factors contribute to educational wastages. In answering research question one, it was found out that economic-related factors include: parents withdrawing children from school to work and complement family earnings, lack of finance to meet with school demands, low economic value attach to education largely due to the unemployment situation in the state and child labour at home. It is noted that because of poverty, parents withdraw their children from school and utilize their services to complement family earnings. The low income of parents could also lead to parents not able to meet up with school expenses. Even though the secondary schools' system by policy in Nigeria is supposed to be free but school heads charge as high as seven thousand naira for students' enrollment, this to the exclusion of other charges. This leads to parents withdrawing their children from school for apprenticeship education which is less expensive. When the research hypothesis was tested for significance it was found out that there exists a significant relationship between economic related factors and educational wastages. This is because the calculated chi-square (250.46) was higher than the critical value (21.03) at 0.05 level of significance. Hence the null hypothesis one was rejected. This study confirmed the findings of UIA (2017) that economic factors affect educational wastages. Also Matage, Kyalo and Shandrack (2015) had similar results that economic-related factors influence educational wastages. Adeoye and Olumide (2014) had also affirmed that due to parents' lean resources they could not afford little school levies, buy books and cloth their children neatly. The net result being premature withdrawal of children from the school system.

On the second research question about government-related factors, the findings from this study showed that the poor implementation of educational policies was found not to affect educational wastages. This factor had a mean response of 2.22 which was below the average of 2.50. However, factors such as voluminous nature of the science syllabus, lack of innovative curriculum content to meet the needs of students, inadequate school funding and inadequate qualified science teachers were found to have contributed to educational wastages. Also, the grand mean of 2.77 showed that government-related factors influences educational wastages. When tested for significance as in hypothesis two, it was found out that there exists a significant relationship between government-related factors and educational wastages. The poor state of infrastructures and learning facilities has affected the educational system as a whole. The overloaded curriculum has made teachers to resort to lecture method of teaching which most students could not cope with and this leads to their premature withdrawal from school. This finding is in agreement with that of Samuel, Mulwa, Migosi and Kaman (2017) that found significant relationship between government-related factors and educational wastages. Also in his study Akinsolu (2017) affirmed that government attitude accounts to educational wastages in Nigeria.

Home-related variables were also found to have contributed to educational wastage. The study revealed that large family coupled with lean family resources leads to premature withdrawal of school children by parents. Some children live with one parent due to either divorce or the death of one of the parents. Thus the single parent could not cater for the educational needs of children. The study also revealed that parents could withdraw their children from school to come and assist in household chores. Parental level of educational that determines the family income also has influence on wastages. Illiterate parents are likely to be low income earners and thus could not afford children school demands. The parent's



income also determines the type of home environment. Parent's low income could lead to a family of seven occupying just one room apartment. This type of home environment could not allow children to study at home or have space to carry out their school assignments. When these home factors were tested for significance, it was found out that there exists significant relationship between home-related factors and educational wastages. This was because the calculated chi-square (118.68) was higher than the critical value (21.03). Hence the null hypothesis was rejected at 0.05 level of significance. This results are expected because illiterate parents are bound to produce more children. When the number of children in a family is large, parents may not be able to cope with the children's school demands hence the possibility of withdrawing from school. These findings continued the findings of Orwasa and Orodho (2018) that home-based variables influence educational wastages.

Some school-related variables also account for educational wastages teachers' attitude in the classroom, harsh school rules, trekking long distances to school, lack of instructional material and the failure of teachers to motivate children influence educational wastages. The study revealed that there exists a significant relationship between school-related factors and educational wastages. This is because the calculated chi-square (79.45) was higher than the critical value (28.87) at 0.05 level of significance. Thus the null hypothesis was rejected at 0.05 level of significance.

In answering research question five, the findings of this study revealed that gender-related factors influence educational wastages. The findings revealed that early marriages of girls, teenage pregnancies, preference of boy's education to girl's accounts to female student's premature withdrawal from school. Also, peer influence on boys affects their early withdrawal from schools. On subjecting these factors to chi-square analysis, it was found out that there exists a significant relationship between gender-related factors and educational wastages. The calculated chi-square (176.59) was higher than the critical value of 25.00 at degree of freedom of 15 and 0.05 level of significance. Thus the null hypothesis was rejected. It is observed that parents especially from poor income withdraw their female children from school to be married. This could be primarily to relieve the family of that burden and secondly to start fending for her selves in the husband's house. Also, due to lack of proper care at home girls indulge themselves in pre-marital sex in order to earn money and cater for themselves. In most cases, this could result to unwanted pregnancy and premature withdrawal from school. Some cultural beliefs also consider the continuous education of the girl-child as a waste of resources and thus a loss to the family. This lead to parents training the boy-child at the expense of the girl-child. The results of this study is in consonance with the findings of Matage, Kyalo and Shandrack (2018) that early marriages, teenage pregnancies and gender preferences are major gender factors that influence educational wastages.

CONCLUSION

Education globally has been seen as a tool for national and individual upliftments. In particular, science education paves the way for technological and socio-economic transformation of a nation. This is why nations, especially the advance nations expand their huge resources to promote science education. The idea is that when such huge amount is expanded, there will be a positive result. The findings of this study had revealed that some of these amount on education are wasted. Children enrolled in school but could not complete



that cycle of education. The study revealed that economic factors government-related factors, school-related factors, home-related factors, school-related factors, home-related factors and gender-related factors are significant contributors to educational wastages. In order to ameliorate these ills, the paper make the following recommendations.

RECOMMENDATIONS

Based on the findings of this study, the paper recommends as follows:

- 1) Quality science teachers should be appointed into the school system. This will create quality instruction and motivate the students in the classroom.
- 2) Innovative teaching methods should be adopted to make the classroom environment lively and less boring for the students. The school system should de-emphasize the traditional teaching method which is too bookish and gives no room to physical handling of science apparatus.
- 3) Facilities should be put in place for teachers' professional improvement. This will enrich their teaching competency.
- 4) The school should be equipped with instructional materials. This will give room to teachers making use of these materials in the teaching of science.
- 5) Parents should be encouraged to have manageable family size in which they could confidently and conveniently take care of their school's demands.
- 6) The Universal Basic Education Act that stipulates punishment on erring parents who do not send their children to school should be strictly enforced.
- 7) Government should increase school funding so as to enable school administrators acquire instructional materials to be used in schools.

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