

## WASTAGES IN EDUCATIONAL SYSTEM

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## ABSTRACT

This paper is on educational wastages. The paper first examined method of calculating both wastage ratio and utilization rates. These two variables are considered to be very significant in determining the level<sup>of</sup> wastage in educational system.

The closer the wastage ratio is to 1, the more efficient is the system. Utilization rate varies from school to school. It is never 100% due to some logistic problems.

The paper also discussed major sources of educational wastages. Wastages in educational system could be attributed to many factors such as.

- a) The nature, ability and capacity of students.
- b) The nature of the schools
- c) The nature of educational system;
- d) The resources available to education
- e) The socio physical environment;

Amongst other things the paper suggested that:

- a) efforts should be made to reduce repetition rate as much as possible;
- b) appointment of new staff should be based on relevant qualification and experience.
- c) There should be standard means of comparing performance with result to correct any significant deviation from the target accordingly.

## WASTAGES IN EDUCATIONAL SYSTEM

### INTRODUCTION

This paper has been prepared to alert participants on the need to diagnose the environment before making prescriptions for efficient and effective use of educational resources.

Education is regarded as an industry expected to justify the resources devoted to it. In the face of decreasing national revenues rising inflation and other financial predicaments, there is need to reduce to the barest minimum wastages in educational system.

According to Babalola (1986), educational wastage should not only revolve round the production of a maximum number of graduates it should centre on a reduction of the total amount spent on educational supplies and services. Therefore, educational wastage should be seen more in terms of the additional real input wasted on repeaters and drop outs rather than the additional output which could have been produced if there had been no wastage.

Problems of educational wastages have been of increasing concern to educators in many countries. Efforts have been made by Maleche (1960), UNESCO (1967), Nwaguwa and Oredara (1979, 1971) to define and identify causes of educational wastage in Uganda, Asian, Nigeria and Ibadan educational systems respectively.

While Coombs and Hallak (1972), P.256) believe that: Waste can take a variety of forms, "Nwankwo (1981, p.88), from a quantitative perspective, says that wastage in the flow of students is manifested in the form of dropout and repetition.

Consequently, what are the possible cause<sup>of</sup> wastage in educational system and how to minimise such wastes seems to be the concern of this paper.

#### WASTAGE RATIO

Nwankwo (1981) asserted that Educational wastage implies inefficient use of educational resources. It includes drop-outs, repeats, pre-mature withdrawal, misguided types of education, non employment of school leavers, and even brains drain.

According Owolabi (1984), a school enrolment story is incomplete without any information on wastage, for it is possible to have 100% of an age group registered in school in year t and have less than 50% of same set retained in the school in year t+1 obviously, enrolment would not be described as being universal in such a system.

There is educational wastage when there are clients who spend more than the minimum number of students years or drop out without completing the cycle.

Educational wastage in developing countries is due mainly to cumulative repetitions and pre-mature drop-outs

of pupils. A detailed diagnosis of enrolment conditions will therefore seek for information on repetition and drop outs and from such information the internal efficiency will be determined by computing the wastage ratio.

Information on wastages and their causes in different regions will not only be instrumental in the location of new schools and expansion of old educational planner to reflect on the monetary consequences of wastage reduction.

#### METHOD OF CALCULATION

In a school cycle of 4 years, a successful completer would require a minimum of 4 student-years to complete the cycle. A unit of educational output can thus be produced with at least four units of inputs (student years) under conditions of perfect efficiency the input/output ratio in a cycle of four years.

$$\text{Input-output ratio} = \frac{\text{Input}}{\text{Output}} = \frac{4}{1} = 4$$

Nevertheless, perfect efficiency is only a theoretical model. In the real world students do repeat grades thereby adding to the number of student years and for one reason or another students do drop-out before completing the cycle, thereby utilizing some students years without contributing to the output from the cycle.

The actual input/output ratio therefore tends to be bigger than the ideal ratio in practice.

$$\text{Input-output ratio} = \frac{\text{Total no. of student years}}{\text{Total no. of graduates.}}$$

### Examples

#### Theoretical situation

If in a cohort of 50 students, all the 50 are able to graduate from the cycle in record time we will have

$$\frac{\text{Input}}{\text{Output}} = \frac{50 \times 4}{50} = \frac{4}{1} = 4$$

This implies that the school system is producing one graduate in 4 student years

#### Practical situations-

If, in a cohort of 50 students only 40 are able to graduate and the total number of student years spent amount to 180 we will have.

$$\frac{\text{INPUT}}{\text{Output}} = \frac{180}{40} \text{ student - years} = \frac{18}{4} = 4.5$$

This implies that the school system is producing one graduate in 4.5 years.

This can be compared with the theoretical input-output ratio.

The results is usually referred to as wastage ratio

$$= \frac{4.5}{4} = 1.125$$

$$\text{Wastage ratio} = W = \frac{\text{Actual input-output ratio}}{\text{Ideal input-output ratio}}$$

Under a perfect situation, the lower limit of the wastage ratio is 1. That is when the input-out ratio tallies with the ideal.

The closer the wastage ratio is to 1. The more efficiency is the system. A wastage ratio of 3% indicates that an output is produced in the cycle at thrice the ideal cost.

#### UTILIZATION RATES

Most schools are often under-utilized. The rate of utilization could be increased either by extending the utilization time or by allowing access to the school and sports equipment by the community.

To measure the utilization of schools and equipment we can use any of the following indicators.

##### (i) The Time Utilization Rate (TUR)

This is the ratio between the number of period during which a classroom is used, and the maximum number of periods available per week.

Example if every classroom could be used for 8 hours daily and 5 days a week, but if the actual time the room is used is only for 35 hours, the time utilization rate equals.

$$\frac{35}{40} \times \frac{100}{1} = 87.5\%$$

##### ii. The space utilization rate (SSUR)

This compares the average size of the classes occupying a room and its theoretical capacity.

Example: A classroom built for 40 students is occupied on average, by only 25 students. The space utilization rate is therefore going to be.

$$\frac{25}{40} \times \frac{160}{1} = 62.5\%$$

(iii) The total or Global utilization Rate (EUR)

This give the ratio between the number of students hours occupied and the theoretical student hours.

GUR =	average number of students attending	Numbers of hours of use per week
	<u>number of places available in the classrooms</u>	<u>theoretical numbers of hours of use per week.</u>

which implies  $EUR = TUR \times SUR$

Example: From the pprevious examples, the total utilization rate would be.

$$\frac{35}{40} \times \frac{25}{40} \times \frac{100}{1} = \frac{35 \times 25}{16} = 54.7\%$$

The organizational, difficulties of time tabling often make it difficult for schools to attain the utilization rates of over 75%. The rates often reached vary according to the type of rooms and the size of the schools.

The GUR gives a better idea about utilization of physical facilities than TUR or SUR taken seperately (Madumere 1989) Causes of Educational wastage. Accordin, to Nwankwo (1981).

There are several sources of educational wastage.

We can group them (for convenvience) under those due to:

- The nature, ability, and capacity of students;
- The nature of the schools;
- The native of the educational system;
- the resources available to education (teachers etc);

- (e) the socio physical environment;
- (f) the labour market.

Therefore any realistic discussion on educational wastage must of necessity touch on every component of the education production framework including the input, the process and the output and would even include the society and its socio-economic environment. Traditional studies on educational wastage focused on drop-out rate and poor use of resources. Educational wastage should be looked at from the totality of education and its system setting.

Reduction of Educational wastage the following are some of the practical steps that could be taken as measures for reducing educational wastage. (Nwankwo 1981)

1. The aims of education in a rapidly changing world should be redefined, taking into account the contribution which education must make to human, social and economic development and to the effective implementation of the right of education.
2. It is desirable that there should be continual improvement of the methods used in teaching and education in general, both by using modern information media and educational technology, and by applying the results of educational and psychological research so that the methods used are better suited to the child's needs.
3. Improving pre-service and in-service training of teachers and their guidance.

4. The selection procedures and methods of student admission should be used to test and place students according to ability, interest and aptitude.
5. It is essential to develop school counselling and vocational guidance services on a permanent basis, so as to supply the children their families and the pupils with adequate information about the educational system and the opportunities it provides for achieving a better life in general and for employment.
6. There should be close co-operation between the school the family and the community
7. There should be co-operation between educational administrators, educators, school psychologists, careers advisor, doctors, social workers and parents.
8. Systematic public information should be organized on a permanent basis to give parents an awareness of the importance of their children's attending schools.
9. Steps should be taken to make schooling compulsory, provide the facilities needed to cater for the enrolment of all children and prevent foreseeable voluntary drop-out, particularly when this results from the working activities of minors.
10. Services should be set up or expanded to trace physically or mentally handicapped children and institutions should be founded for such children.

11. The teaching of the language of instruction should be improved, both as a subject and as a tool for the acquisition of knowledge.
12. Special attention should be paid to the teaching of basic subjects in which wastage sometimes occurs—for instance, the mother tongue and mathematics.
13. Measures should be devised to reduce the rate of repetition in the first years of the primary course, in which they appear to be particularly high.
14. In reviewing the content of education, provision should be made for new subjects closely related to life, the environment and work, in order to strengthen the pupils' motivation.
15. In the educational structure provision should be made for complementary forms of education which will enable children who have dropped out from school or who are seriously behind in their work to acquire more general knowledge and vocational or pre-vocational training, so that they may re-enter the educational system or enter the production sector.
16. The important factor of wastage resulting from excessively large classes should be eliminated by reducing the numbers in each class so that there is an appropriate pupil-teacher ratio in countries where circumstances allow for this although this should not be done in those countries where it would make the school attendance situation worse. In such countries, educational authorities and research

workers should devise ways of improving the efficiency

A such classes thus reducing wastage.

- (17) The result of experience gained by teacher and other schools which have succeeded in reducing wastage considerably or even in eliminating it should be disseminated and widely applied.
- (18) In reforming educational systems and working out special measures to reduce wastage rates, account should be taken that of the part could be played by educational research and the science of education..

#### CONCLUSION

This paper has sought to discuss the concept of wastage in educational system. There are unnotice sources of waste in our educational systems, including under utilized classroom buildings, under utilized staff, high drop out rates, primary and secondary school graduated with in sufficient basic skills. Presently, there are strong nationwide pressures to increase social efficiency so as to minimise wastages in our educational systems. Therefore to achieve this objective the following additional suggestions should also be immediately considered for implementation.

Firstly, emphasis can be placed on reduction of repetition rates alone, particularly in the upper classes, in order to save money. This may imply automatic promotion if necessary. Infact by reducing repetition rates, drop-out rates may also be reduced. (Babalola, J. B 1991).

Secondly, a round peg should be put in a round whole. That is, appointments should be based on relevant qualification and experience.

Thirdly, there should always be a standard means of comparing performance with desired result for proper accountability and managerial effectiveness.

Fourthly, there is need for a change in Nigerians attitude to work. The idea that government work is no man's work consequently leading to a lot of wastages in the use of educational resources should be discouraged.

Fifthly, there is need for good record keeping. Poor record keeping is also responsible for wastages in educational system. Proper records of resources available, required, should be well kept.

More importantly, psychologically in education sector, the people in the field, that is, the teachers are not motivated to put in their best. So the output is usually relatively low when compared with the input. Since productivity is usually low, the efficiency is also low. Consequently, wastage ratio is often very high.

Hence, there is no amount of effort aimed at encouraging teachers welfare that would be too much. If this is effectively done it will enhance their performance which will in turn lead to increase in productivity and consequently reduce wastage ratio in educational systems.

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