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Internal Efficiency of Public Senior Secondary Schools in Edo State

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Abstract: *The study was out to ascertain the enrolment and promotion rates of Edo State public senior secondary schools as well as wastage rates and the extent to which the schools are internally efficient. The study, therefore, investigated the internal efficiency of public senior secondary schools in Edo State. Four (4) research questions were raised to guide the study. A descriptive research design was adopted. The population of the study comprised all forty-two thousand, four hundred and seventeen (42,417) S.S.S.1 cohorts of public senior secondary school students for the 2019/2020 academic session which equally formed the sample for the study using the census sampling technique. A checklist titled "School Enrolment Checklist" (SEC) was used to elicit data for the study. The research questions were answered using percentages and the crude-cohort wastage rate (C-CWR), input/output ratio. The results of the findings showed that public senior secondary schools in Edo state had a low wastage rate as the schools were moderately internally efficient with moderate enrolment and promotion rates. The study, therefore, recommended that the state government should further motivate teachers by intensifying their training such as seminars, workshops, and conferences among others to reduce wastage in the system.*

Key words: *Internal efficiency, public senior secondary school, wastage rate*

Introduction

Education plays an important part in the economic development of any nation by instilling in individuals the required skills, knowledge, and behaviours which enable them to adjust to the changing world, thereby contributing meaningfully to the growth of oneself and society at large. Education is the passing of knowledge, skills and attitudes to society. Education is a tool which is used by the Federal Government of Nigeria to attain national development. Secondary school education in Nigeria is mainly a prerequisite for tertiary education which is expected to produce the needed quantity and quality of manpower in the country. It is the bridge between primary and tertiary education. According to National Policy on Education (FRN, 2014) the goal of secondary education shall be to prepare the individual for useful living within the society and higher education. Public secondary schools in the state are secondary schools managed and funded by the State Government to provide a platform for them to acquire knowledge/skills which enable them to proceed to various tertiary institutions. When the funds and resources provided are well utilized to produce the expected output it leads to internal efficiency.

Internal efficiency shows the correlation between input and output at a specified time in the educational system. The inputs comprise students, staff personnel, funds and other facilities,

while the output is the graduates. Ngari (2020) posited that internal efficiency has to do with the input and output ratio in a given system. He equally stated that internal efficiency is attained when there is maximum enrolment in a cohort and the maximum number of graduates from the same cohort at the end of the specified education cycle. According to Kolawole and Ogbiye (2020), schools are said to be internally efficient when there is a nonexistence of educational wastages such as dropouts and repeaters occasioned by an increased enrolment rate, high students: teacher ratio, inadequate manpower both in quantity and quality, inadequate educational facilities among others. Ayodele and Ogbiye (2018); Ayodele and Adeleke (2015) and Ileuma (2017) postulated that an internally efficient educational system is a system that turns out graduates' without wasting any student-year non-having dropouts and repeaters. Internal efficiency according to Arogundade and Belo (2019), is the extent to which resources provided in schools are being used to achieve the laydown objectives of the educational system. Internal efficiency occurs when all or most students move from one level to another without dropping out till they are done with the education cycle within the given time.

Indicators of internal efficiency in a school as opined by Dufitumukiza, (2020); Ibrahim, (2018); Okinyi et al. (2021), Kolawola and Ogbiye (2020); Ileuma (2017) and Murumbakiveu et al. (2017) are completion/ graduation/ promotion, enrolment and wastage (dropouts, repeaters) rates. The internal efficiency of the educational system is determined using the cohort analysis of the educational system showing the pattern of student flow by genders such as promotion, repetition and dropout rates. The planning and administration of schools by school managers are key factors in determining the internal efficiency of the schools. This study focused on the internal efficiency of public secondary schools looking at promotion rates of male and female students, and wastage rates of students to determine the internal efficiency of the system. A lot of reasons may be attributed to public senior secondary school students dropping out of school or repeating a class among which could be lack of adequate finance, cultism, early marriages, drug abuse, hawking to help augment family income etc. The promotion rate has to do with students that passed their previous class and were moved to the next class in various public secondary schools in the state. While dropouts are students who enrolled in schools that either failed or repeated and could not complete their education or graduate alongside their cohorts (repeaters and those that left the school).

Studies on the quality and quantity of teachers alongside school variables such as funding, classroom and school sizes etc. when adequately provided have been shown to increase the internal efficiency of schools (Kolawole and Ogbiye, (2020); Ileuma (2017) and Qutb (2016). The study carried out by Ayodele and Adeleke (2015) on "Internal efficiency of public and private secondary schools in Ekiti State" revealed that secondary schools in the state were fairly internally efficient as there were minimal cases of repetition and dropout. Adeyemi (2012) and Adeyemi and Adu (2012) in their studies on "school variables and internal efficiency of secondary schools in Ondo State, Nigeria" and "teachers' quality and internal efficiency of primary schools in Ekiti State, Nigeria respectively found out that promotion rates were progressively high among secondary schools in the states. Onyali and Nnebedum (2021) and Alonge and Iwerebor (2020) in their various studies affirmed that the dropout rate was higher with male than female students. Iwerebor and Ibadin (2021) opined that there exists a gap between male and female enrolment in schools. It has been observed that an increase in student enrolment without a corresponding increase in resources (human and physical) may hamper the internal efficiency of secondary schools thereby resulting in wastage. Lately, the number of out-of-school children in Edo state has been observed to be on the increase, a situation that has made the Edo State Government promote a bill that sees to the arrest of school-aged children roaming about the street during school hours.

Statement of the problem

Senior secondary education which is the basis for transition into tertiary institutions has been observed to have a high rate of out-of-school students in Edo State which perhaps may be due to high wastage (dropout and repetition) rate occasioned by inadequate provision of resources. Also, a decrease in promotion rate is probably responsible for repetition and dropout of students in schools thereby resulting in wastage, thus, making the schools internally inefficient. Cases of wastage have been perceived to be on the increase among public senior secondary school students in the state. It is against this backdrop that the study investigated the internal efficiency of public senior secondary schools in Edo state from the 2019/2020 to 2021/2022 academic sessions.

Research Questions

1. What are the enrolment rates of male and female public senior secondary school students in Edo state?
2. What are the promotion rates of male and female public senior secondary school students in Edo state?
3. What is the wastage rate of public senior secondary school students in Edo state?
4. Are Edo state public senior secondary schools internally efficient?

Method and Materials

The study adopted a descriptive design. The population of the study comprise all forty-two thousand, four hundred and seventeen (42,417) S.S.S.1 public senior secondary school students in Edo state for the 2019/2020 to 2021/2022 academic sessions. The sample size is made up of a total of 42,417 S.S.S.1 student using the census sampling technique. A checklist titled "School Enrolment Checklist" (SEC) was used to elicit information on male and female students' enrolment from the Edo State Ministry of Education for the study. The content and construct validity of the instrument were done by two experts from Educational Management Department. The data were analyzed using percentages and the crude-cohort wastage rate (C-CWR) input/output ratio to answer the research questions. The C-CWR is the percentage of repeaters and dropouts (which is referred to as dropouts in this study) from the first year to the final year of the academic session of a given cohort of students. The coefficient of wastage derived from the calculated C-CWR was used to determine the internal efficiency of the schools which were categorized as low (0-39%), moderate (40-69%) and high (70% and above). The same rating applied to the enrolment rate.

Results

Research Question 1: *What are the enrolment rates of male and female public senior secondary school students in Edo state?*

Table 1:

The enrolment rate of male and female public senior secondary school students in Edo state from 2019/2020 to 2021/2022 academic sessions.

Flow	**2019/2020 Academic Session**			**2020/2021 Academic Session**			**2021/2022 Academic Session**		
	S.S.S.1			**S.S.S.2**			**S.S.S.3**		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
E	20,839	21,578	42,417	14,692	15,699	30,391	12,308	13,652	25,960
% E	49	51	100	48	52	100	47	53	100

Source: Computed from Edo State Ministry of Education (February 2022).

Key: E = Enrolment

From Table 1, the enrolment rate of public senior secondary schools in the state was moderate as it was between 48% and 52%. However, out of the total enrolment of forty-two thousand, four hundred and seventeen (42,417) S.S.S.1 students enrolled in public senior secondary schools in Edo state for the 2019/2020 academic session, twenty thousand, eight hundred and thirty-nine (20, 839) were males and twenty-one thousand, five hundred and seventy eight (21,578) were females. Based on this, the female enrolment rate was higher (51%) than that of males (49%). The same was observed in the subsequent years with the male having 48% and 47% while the female had 52% and 53% for the 2020 to 2022 academic sessions respectively.

Research Question 2: *What are the male and female promotion rates of public senior secondary school students in Edo State?*

The promotion rate was calculated thus;

$$P^i_t = \frac{P^{i+1}}{E^i_t} \times \frac{100}{1}$$

Where:

P^i_t = Promotion rate

P^{i+1} = Number of students promoted (promotes) to grade i+1in year t+1

E^i_t = Enrolment in grade 1 in year t (previous year)

Table 2:

Promotion rates of male and female public senior secondary school students in Edo state from 2019/2020 to 2021/2022 academic sessions

Flow	**2019/2020 Academic Session**		**2020/2021 Academic Session**		**2021/2022 Academic Session**	
	S.S.S.1		**S.S.S.2**		**S.S.S.3**	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
E	20,839	21,578	14,692	15,699	12,308	13,652
No promoted	14,692	15,699	12,308	13,652	-	-
% promoted	35	37	40	45	-	-

Source: Computed from Edo State Ministry of Education (February 2022)

Key: E = Enrolment

From Table 2, the promotion rate was 35% and 40% for male students in Edo State for the 2019/2020 and 2020/2021 academic sessions respectively. While that of females was 37% and 45% for 2019/2020 and 2020/2021 respectively. Averagely, the promotion rates were 38% and 41% for male and female students respectively for the period under review.

Research Question 3: *What is the wastage rate of public senior secondary students in Edo state?*

The Crude-cohort wastage rate (C-CWR) was used in calculating the wastage rate of public senior secondary school students in Edo State, using the enrolment at the point of entry (S.S.S.1) and the end of their programme (S.S.S.3) for 2019/2020 - 2021/2022 academic sessions. The differences in the enrolment figures from the entry point to the final year were referred to those that dropped out and repeated. The C-CWR was calculated thus, using the formula below;

$$\text{C-CWR} = \frac{Et^1 - Et^3}{Et^1} \times 100$$

Where

C-CWR = Crude- Cohort wastage rate

Et = Enrolment

Et^1 = Enrolment in the initial year (the 1st year of senior secondary schooling)

Et^3 = Enrolment in the final year (the 3rd year of the senior secondary schooling)

$$\text{C-CWR} = \frac{42417-25878}{42417} \times 100$$

$$= \frac{16539}{42417} \times 100$$

$$= 39\%$$

The percentage of repeaters/dropouts from the first year to the final year of the cohort of students from the 2019/2020 to 2021/2022 academic year was 39%.

Research Question 4: *Are Edo state public senior secondary schools internally efficient?*

The input/output ratio (also known as wastage ratio) in this study was particularly calculated for the flow of the cohort of students with the assumption that the number of students who are the input enrolled in the initial year are expected to complete the senior secondary 3 years cycle. It is represented thus:

$$\text{Input/ Output Ratio} = \frac{Et^1}{Et^3}$$

Where:

Et^1 = Enrolment in the initial year (the 1st year of senior secondary schooling)

Et^3 = Enrolment in the final year (the 3rd year of the senior secondary schooling)

$$\text{The input/ output ratio} = \frac{Et^1}{Et^3}$$

$$= \frac{42417}{25878}$$

$$= 1.64$$

$$\text{Coefficient of efficiency} = \frac{1}{\text{Wastage ratio}} \times 100$$

$$= \frac{1}{1.64} \times 100$$

$$= 61\%$$

From the finding, the co-efficient of efficiency was 61%. This means that public senior secondary schools in Edo state were moderately internally efficient with internal efficiency of 61%.

Discussion of Findings

The findings from the study showed that public senior secondary school enrolment in Edo state was moderate, nevertheless, that of female students was higher than that of males, though very insignificant. This could be a result of various campaigns to promote girl-child education in the state by the First Lady of the state and some Non-Governmental Agencies (NGOs) to bridge the gender gap between males and females. Oyanli and Nnebedum (2021), in their study equally corroborated that female enrolment was higher than male. However, this was refuted in the study carried out by Iwerebor and Ibadin (2021) on "female access to university education in Nigeria: Bridging the Gap" as they found out that male enrolment was higher than that of the female.

The findings equally revealed that the promotion rate was averagely moderate among female students and low for male students. However, the promotion rates increased as the students progressed from one class to another with that of females slightly higher than that of males. The moderate and gradual progression in promotion rates perhaps could be adduced to many factors such as the provision of adequate and qualified teachers, adequate facilities and the increasing efforts by the state government to revive and promote the educational sector. These findings are in agreement with those of Adeyemi (2012), Adeyemi and Adu (2012),

Public senior secondary schools in Edo state experienced some elements of wastage in terms of repeaters and dropouts, though low, which may probably be due to the frequent training/workshops/seminars organized by the State Government through the State Ministry of Education to enhance teachers' productivity, thus, reducing wastage. It is also likely that the assessment of educational counterpart funding by the State Government may have been used to produce educational resources which might increase students' performance, hence, reducing wastage. This finding was consistent with those of Ayodele and Adeleke (2015) and Ileuma, (2017), Kolawole and Ogbiye (2020) and Tusiime et al. (2017).

. In the same vein, public secondary schools in the state were found to be moderately efficient. This finding was supported by Ayodele and Adeleke (2015). The reason for this could also be associated with the reasons discussed above.

Conclusion

From the findings of the study, it was concluded that public senior secondary schools in Edo state have moderate enrolment and promotion rates, and low wastage rates thereby making the schools to be moderately internally efficient.

Recommendations

Based on the findings, it was recommended that

- Government should intensify and not relent in the training and re-training of public secondary school teachers through seminars, workshops, conferences etc. to motivate and increase their commitment towards their jobs to increase the promotion rate thereby reducing wastage in the system.

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