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Educational Wastage in Kenya: A Threat of Internal Efficiency in Bungoma County Secondary Education

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Abstract
This paper reports on stakeholders' views on efficiency of secondary schools in Bungoma County. The study assesses the internal efficiency of secondary schools in Bungoma County using descriptive survey research design. A sample of 324 consisting of 177 students, 115 secondary school teachers 7 secondary school parents and 25 principals was used. Data was collected using questionnaires and interview schedule. The findings showed that Bungoma enrolment rate of 63.4 per cent was lower than the national enrolment rate of 70.5 per cent. Further, the findings revealed that there is a high repetition rate in secondary schools in Bungoma County and that girls were most disadvantaged. Based on the findings it is suggested that there is need to restructure secondary education so as to address issues negating access and retention in Bungoma County.

Keywords: *Dropout rate, Efficiency; Repeater rate, Wastage*

Introduction

The term wastage in respect to education refers to human and material resources spent or 'wasted' on students who have to repeat a grade or who drop out of school before completing a cycle. It denotes the inefficiency of a school system and refers also to the wasted opportunities for the children to develop the knowledge, skills attitudes and values needed to live productive lives and to continue learning (UNESCO, 1998). The dropout and repetition are considered as two components of educational wastage. Some writers argue that in educational term it is not correct to consider dropouts and repeaters as wastage, because in their school career they have received a considerable amount of education. So, from the point of view of economic evaluation, mature school leavers and repeaters may contribute to the economy. On the other hand, there are some that disagree that it is undeniable from the education point of view; both dropout and repetition contribute heavy costs in education. When a school fails or is inefficient to achieve educational objectives, it is inevitable that there is wastage of human learning, school buildings, equipment and other instructional materials and the labor of teachers. This means when the degree of wastage is high, the internal efficiency of the system becomes low and vice versa.

Lerotholi (2001) points out that the internal efficiency of an education system is revealed by grade promotion, repetition and dropout rates. He further asserts that the higher the promotion and completion rates, the better the system's efficiency. Galabawa (2003) also describes internal efficiency as the system that concerns maximizing the relationship between inputs and outputs. Thus, there must be a constant quest on the part of managers of the

education system to see whether the same out-puts in terms of enrolments, successful completers, or measured learning achievement - can be achieved with fewer financial or ' real resource' inputs; and whether greater outputs can be achieved by redeployment of the existing level of inputs. Lerotholi (2001) observes that since internal efficiency is calculated on the basis of dropout, repetition and promotion rates, when dropout and repetition rates are high before the end of each education cycle, then that portion of the education system is said to have serious internal inefficiency.

It is clear that the national aim of all nations is to retain all children recruited in to the education system until the objective of the system is satisfied. However, due to external and internal factors, schools could not retain children, as they would wish. The School system had much responsibility to reduce wastage by controlling the internal factors (school related factors) that cause repetition and dropout. At the basic level of education; both dropout and repetition represent wastage of education. Dropout and repetition are the most convenient events through which to observe the failure of a system to hold children within it and the inefficiency in the achievement of objectives (Brimer and Pauli, 1971). So, to study the problem of educational wastage, the basic symptoms of wastage i.e. Dropouts and repetition need to be understood in relation to the types of system which reveal them. Internal efficiency is a milestone of each organization, basically, educational institution. It gives us the mirror of operation system of organization. If educational institutions are more efficient internally, they have their good results and the students who pass from such organizations get good jobs for their bright future. Internal efficiency is affected by various factors especially drop-out, retention, promotion, and cycle completion etc.

In Bungoma County the greatest enrolment has been recorded in the secondary education sub-sector than any other level of education. Enrolment rose from 6,225 in 1970 to 146,206 in 2012. This represents a percentage rise of 22.47% over the years and an annual growth rate of 53%. Despite this phenomenal growth in enrolments for the sub-sectors, the education sector in the county still faces major challenges which require to be addressed in secondary education. These relates to access, repetition, drop-out and retention/completion rates that indicate low internal efficiency that were the main concerns for this study. The dropout and repetition rate of Bungoma County secondary schools was high as compared to other neighbouring counties which have led to educational wastage. In additional to this, the County Education system was not able to meet the yearly expected target of lowering both the dropout and repetition in this period of time, for instance in 2010/2011 the dropout rate of secondary schools was 12.2% and repetition rate was 4.4% in the county. From (MOE) the repetition rate was 12.4% and dropout was 16.4% in 2011/2012. These data indicated the challenge of implementing Millennium Development Goals which says that all enrolled children must complete full course of basic education (Primary and Secondary education). This shows that Bungoma county education is internally inefficient. The expected standard considers the repetition rate and dropout rate to be zero, as we implement the Education Millennium Development Goal. The researchers therefore wanted to highlight the trends of such factors, which are the causes of internal efficiency, in Bungoma County.

All nations in the developing countries generally understand the importance of investing in basic education. They recognize that high levels of literacy and numeracy are a must if they want to create a competitive workforce and a nation of effective parents and active citizens. Despite this they also face an uphill task in building education systems capable of providing

basic education for all children, youth and adults. This is because financial and human resources are scarce, hence difficult decisions must be made in order to determine how best to allocate them. Repeating grades and dropping out exert a terrible personal toll on the students involved and absorb a large share of the limited resources available for education. Finding ways to minimize 'school wastage' must play a central role in any serious effort to reach the goal of Education for All (EFA). Thus, it is against this backdrop that scarce resources must be used as efficiently as possible. Unfortunately, this is not what is happening in Bungoma County despite significant progress having been made in increasing the number of pupils enrolled in primary schools in the County. These gains are undermined by the persistently large number of pupils who take more than one year to complete a particular grade and/or who drop out of school before completing even the primary cycle. This shows signs of internal inefficiency which necessitated this study.

Methodology

The purpose of this study was to determine the nature and trend of internal efficiency of secondary schools in Bungoma County between the years 2010 and 2014. This was in relation to the flow of pupils in terms of repetition, dropout and completion. Simple random sampling and stratified random sampling techniques were used to select the study sample. Simple random sampling technique was used to select 177 students, 115 secondary school teachers and 7 secondary school parents. Purposive sampling technique was used to select 25 principals of the sampled schools.

The study used both primary and secondary sources to solicit data for the study. Primary data were collected from all the Sub Counties of Bungoma County namely; Mt. Elgon, Cheptais, Kimilili, Bungoma West, Bungoma Central, Bungoma East, Bungoma North, Bungoma South and Bumula. Questionnaires, interview guides, and focus group discussion guides were administered to school heads, selected teachers and pupils. In addition, observation guides were used to record school operations, inside and outside the classrooms.

Secondary data were collected from official documents from the Ministry of Education and government records. Existing research reports on the quality and efficiency of education were also examined. Information from schools' official records, such as registers, supplemented the reports. Qualitative data was analysed using descriptive statistics such as frequency counts, percentages and means. Qualitative data was received in verbatim, transcribed and reported in themes. Data analysis was aided by SPSS Windows 17.1. Data was presented in tables and figures.

Findings of the Study

Secondary School Enrolment

Since independence the education sector in Bungoma County has expanded rapidly with a substantial increase in the number of educational institutions. The total number of secondary schools rose from five in 1963 to 260 (252 public and 8 private). The enrolment rose from approximately 350 to 78,481 (46,600 boys and 31,881 girls) during the same period. Whereas the figures reflect that much has been achieved, the county has a gross enrolment of 78 per cent while net enrolment is 63.4 per cent against a national enrolment rate of 70.5 per cent. The eligible secondary school population (14 -17 years) is estimated at 146,206 (73,324 boys and 72,882 girls) that represent 7.6 per cent of the total county population. This implies

that many students have either dropped out of school or did not transit to secondary schools from primary schools.

Repetition in secondary schools

Table 1: Bungoma County secondary schools repeater rates by sub-county and sex, 2013

Sub-county	Gross Enrolment			Repeaters			Repetition Rates		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Average
Mt. Elgon	1977	1644	3621	42	38	80	2	2.3	2.2
Cheptais	2495	1726	4221	48	45	93	2	2.6	2.3
Kimilili	6328	4427	10755	68	62	130	1	1.4	1.2
Bungoma West	3966	3731	7697	73	67	140	1.8	1.8	1.8
Bungoma Central	6144	5616	11760	77	68	145	1.3	0.1	0.7
Bungoma East	7681	8681	16362	132	138	270	1.7	1.5	1.6
Bungoma North	5065	5917	10982	84	91	175	1.7	1.5	1.6
Bungoma South	7396	5812	13208	130	122	252	1.8	2	1.9
Bumula	4873	4806	9679	85	76	161	1.7	1.5	1.6
Total	45925	42360	88285	739	707	1446	1.7	1.6	1.7

The findings in Table 1 show that approximately 1,446 (739 boys and 707 girls) repeat annually in Bungoma County where, Cheptais sub-county has the highest repetition rate of 2.3 per cent. (2% for boys and 2.6% for girls followed closely by its sister sub-county of Mt Elgon that has a repetition rate of 2.3 per cent (2% for boys and 2.3% girls). Bungoma central sub-county has the lowest repetition rate of 0.7% (1.3% for boys and 0.1% for girls) followed by Kimilili whose repetition rate is 1.2% (1% for boys and 1.4 for girls).

The study further established that teaching is punctuated by tests in most secondary schools which provide feedback on how well students are doing. Schools set minimum marks that students should score in order to move to the next level. This mechanism is observed with lots of strictness and most especially when students move from form three classes to form four to sit for the Kenya Certificate of Secondary Education (KCSE) examinations. Most teachers interviewed indicated that the policy of automatic promotion as advocated by the government undermines internal assessments and also weakens considerably the quality of teaching and learning in secondary schools.

Consequently the policy on automatic promotion is ignored by most schools due to the competition to post good results in KCSE. The researchers were told that there is a higher incident of repetition in secondary schools in Bungoma County as elsewhere in the Country. Thus, students deemed as weak are either forced to repeat in the school or counselled to transfer to other schools from where they also repeat. These findings are in harmony with the findings of Ikeda (2005) who observed students' achievement progress is judged relative to that of their immediate classmates rather than to national norms. As a result, many students in

generally high achieving schools are retained when they would be promoted if they attended generally low-achieving schools.

Secondary School's Drop-out Rates

The study also went further to establish the repetition rates as a factor of internal wastage in Bungoma Count.

Table 2: Bungoma County secondary schools dropout rates by sub-county and sex, 2013

Sub-county	Gross Enrolment			Dropouts			Dropout Rates		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Average
Mt. Elgon	1977	1644	3621	79	84	163	4.0	5.1	4.6
Cheptais	2495	1726	4221	98	118	216	3.9	6.8	5.4
Kimilili	6328	4427	10755	165	128	293	2.6	2.9	2.7
Bungoma West	3966	3731	7697	130	124	254	3.3	3.3	3.3
Bungoma Central	6144	5616	11760	158	120	278	2.6	2.1	2.4
Bungoma East	7681	8681	16362	210	216	426	2.7	2.5	2.6
Bungoma North	5065	5917	10982	169	147	316	3.3	2.5	2.9
Bungoma South	7396	5812	13208	172	185	357	2.3	3.2	2.8
Bumula	4873	4806	9679	162	168	330	3.3	3.5	3.4
Total	45925	42360	88285	1343	1290	2633	3.1	3.5	3.3

According to the findings in Table 2 the trend of dropout rate has been evident in all the sub-counties. Cheptais sub-county has the highest drop-out rate of 5.4% (boys 3.9% and girls 6.8%) followed by Mt. Elgon with 4.6% (boys 4.0% and girls 5.1%). More girls drop out of secondary school education in these two sub-counties largely due to pregnancy, early marriages, poverty and limited awareness about the value of secondary education. Bungoma Central sub-county has the lowest drop-out rate of 2.4% (2.6% boys and 2.1% girls) due to parental awareness of the importance of secondary education.

Gender wise, Table 2 shows that there were slightly significant differences in dropout rates for boys to girls, though girls have higher dropout rate than boys in all sub-counties except for Bungoma Central, Bungoma East and Bungoma North. Table 2 on dropout rates show variations among different Sub-counties in the County. This finding corroborates with the findings of Ananga (2011) who observed that girls who are supported by their parents in schooling rarely drop out of school. He further established that parents who are aware of the potential benefits of education fully support their children education. The findings also corroborate the findings of Kathmandu (2001) who observed that many student characteristics (variation in sex and age group; difference in socio-cultural background such as backwardness community; difference in economic condition; parental attitude towards

education in general & girls in particular; and parents educational awareness and literacy level) affect internal efficiency. Hadley (2010) also established that at a micro-level, family income is directly linked to the affordability of education and as such has a direct impact on whether children attend education.

Secondary School Completion Rates

In order to determine the retention levels at the Secondary school level in the sub-counties of Bungoma West, Bungoma Central and Bungoma East, we utilized the 'Times Series Cohort Analysis'. This technique considered students enrolled in form one in 2010 and compared it with the enrolment in the subsequent higher forms in the following years. The cohort survival rate calculated separately for boys and girls are presented in Table 3.

Table 3: cohort flow for students in Bungoma West, Bungoma Central and Bungoma East Secondary schools (2010 – 2013)

	Boys				Girls			
Year	Form 1	Form 2	Form 3	Form 4	Form 1	Form 2	Form 3	Form 4
2010	4,884				5108			
2011		4,655				4,957		
		(-229)				(-151)		
2012			4,292				4,570	
			(-363)				(-387)	
2013				3,657				3,452
				(-635)				(-1118)

These findings show that completion rates at the secondary school level in three sub-counties of Bungoma (Bungoma West, Bungoma Central and Bungoma East) are much higher for girls than boys. Out of 4,884 boys and 5,108 girls who enrolled in form one in 2010, only 3,657 boys (75%) and 3,452 girls (68%) completed the four years of the secondary education cycle in 2013. The cohort survival rate for both boys and girls was 72%. Ainley, Malley and Lamb (1997) argue that the meanings and significance of participation in post–secondary education have changed over time for girls and boys and that in current times it is regarded as less relevant for boys than for girls – especially by boys themselves. This has enhanced the completion rates for girls.

Conclusion

It was established the Bungoma County has a gross enrolment of 78 per cent with a net enrolment of 63.4 per cent that is lower than the national enrolment rate of 70.5 per cent. This implied that many students had either dropped out of school or did not transit to secondary schools from primary schools. The study also established that there is a higher incident of repetition in secondary schools in Bungoma County as elsewhere in the Country. Approximately 1,446 (739 boys and 707 girls) repeat annually in Bungoma County. This implied that the County has a problem of wastage that it needs to curb in its secondary schools. The study further established that the policy on automatic promotion is ignored by most schools due to the competition to post good results in KCSE. This was more rampant in high achieving schools within the county. The students deemed as weak are either forced to repeat in the school or counseled to transfer to other schools from where they also repeat.

The study also established that more girls drop out of secondary school education largely due to pregnancy; early marriages; negative attitude toward education and the economic background of parents; and lack of education awareness of parents about the value of secondary education. Gender wise there was a slight significant differences in dropout rates for boys to girls, though girls have higher dropout rate than boys in all sub-counties except for Bungoma Central, Bungoma East and Bungoma North. The study further established that the completion rates for girls were higher than boys in three sub-counties of Bungoma (Bungoma West, Bungoma Central and Bungoma East). Despite this the cohort survival rate for both boys and girls was the same.

Recommendations

Based on the findings and conclusions drawn it was recommended that guidance and counseling and career advisory programmes should be strengthened in secondary schools to reduce the rate of repetition and dropout in the County. It was also recommended that there is a need to sensitize parents on the value of enrolling all their children in school notwithstanding the incidence of poverty. This is because the study established that the problems of school dropout were rooted both to school factors, economic problem and social condition external to the school hence addressing them required working with local community, politician and parents.

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