Repetition Rates in Public Secondary Schools in Kericho District in Relation to Selected School Characteristics. A Situational Analysis

Peter K.A. Koros*, Anthony K.A. Sang & Joseph N. Bosire
*Principal Investigator: Faculty of Education, Egerton University, P.O. Box 536, EgertonUniversity, Kenya.
Email: korossp@yahoo.com

ABSTRACT:
The Education Sector in Kenya and other parts of the world has faced many challenges particularly student repetition, which is one of the indicators of low internal efficiency during the past two decades. This study determined and analyzed the student repetition levels of Public Secondary Schools in Kericho District of Kenya for the period between 2004 and 2007. The internal efficiency indicator that was examined in relation to school characteristics was repetition rates. Data was collected from Heads of schools and Guidance and Counseling Teachers in all the 64 public secondary schools in the district that were already doing KCSE examinations by 2004. The study used descriptive survey as a method of data collection and employed Cross Sectional Research Design as a framework for data collection. Primary data on repetition rates was obtained from the respondents using structured questionnaire. Means, Percentages, Frequencies, Standard Deviations and T-tests were used to establish repetition levels. Tests of significance was set at 5% significance level. Statistical analysis was done using Statistical Package for Social Sciences (SPSS). The study revealed that internal efficiency levels particularly repetition rates were higher in Day compared to Boarding schools, Mixed compared to Single Sex schools and Single Stream compared to Large Size schools. The study also found that repetition rates increased with increasing levels of education. The findings of the study are beneficial to the school managers especially the Board of Governors (BOG), the Parents Teachers Association (PTA) and Schools Principals, as well as the Ministry of Education in making decisions about school size, school regime and school type, with respect to internal efficiency specifically repetition rates.
KEY TERMS: Dropout, School Characteristics, School Regime, School Type and School Size

Background to the study

Internal efficiency in secondary schools is an emerging issue in Kenya and most countries of the world today. This is because a large amount of resources in terms of time, money and other supportive materials are often committed to the provision of secondary school education. Secondary school education in Kenya and most countries of the world usually start at fourteen years of age and runs for four years. Upon completion of secondary school, students can choose to go to college or pursue other vocational fields. Students who do well in secondary school are admitted to college, and others join teacher training institutions, technical training schools, or the job market. The competition for admission to colleges and Training Institutes is normally very high. The secondary school education programme is geared towards meeting the needs of both the students who terminate their education after secondary school and those who proceed to higher education (Republic of Kenya, 2003).

Eisenmon (1997) in a study on wastages in secondary education reported that repetition rates in developing countries often are quite high. Besides, the study found that Boarding Schools were preferred by most stakeholders since students did better when compared to their Day Schools counterparts in national examinations. Notably conspicuous in this study was that repetition rates were higher in Day Schools compared to Boarding Schools. According to this study, the highest rates were in the sub-Saharan African countries where each year, about 22 percent of primary schools pupils and 21 percent of secondary schools students were repeating their grade. Out of the total percentage of repeaters in secondary education, Boarding schools accounted for 8 percent while Day schools accounted for 13 percent. The North African and Middle Eastern countries averaged about 12 percent for the primary grades and 21 percent for the secondary grades. From these percentages, Single Streamed Schools accounted for 7 percent while 14 percent came from schools with Two Streams or More. This was because the Single Stream schools were fewer than the Double or more Streamed schools and the study established that most education stakeholders preferred Large Sized schools on the grounds of the economies of large-scale production. The Latin American and Caribbean countries averaged 9 percent and 8 percent for primary and secondary schools respectively. The data from East and South-East Asia were too sporadic to support meaningful averages, but the available number appeared comparable to those for Latin America.

The study further indicated that underreporting of repetition is common in countries that have official policies of automatic promotion but do not enforce them systematically, especially if students must pass

examinations to qualify for advancement. Here, families may arrange for children to repeat grades in ways that do not show up in the records (for example, by shifting to private schools or enrolling under different names). Despite these complexities, it is clear that, except for countries with enforced automatic promotion policies, grade repetition occurs with sufficient frequency to merit research attention and potential policy formulation in both developing and developed countries.

In 2001, the national average for repetition rates was 15.4 percent. From the percentage on repetition, Boys secondary schools registered 5.8% and Girls secondary schools recorded 9.6%. Against this, the main urban centres were better off with an average repetition rate of 8.8%. The incidence of repetition or non-enrolment has been on the rise attributably to a large extent to the Structural Adjustment Programme (SAP) which eroded the economic capacity of most families, thus rendering them unable to meet the education costs of their children (MOEST, 2003). The enrolment in the entire Formal Education Programmes according to ROK (2007) is about eight million which is about a quarter of the total population where secondary education constitutes a consolidation and transition between primary education and higher education and training and the world of work. The four years of secondary education are an important stage of physical, intellectual and psychological development when the youth matures into adult roles. As much as this is the situation, only 47% of those who complete primary education proceed to the secondary education while only 12% of this group proceeds for further education in public Universities and middle level colleges. From the 12% that proceed to the university, 4% are girls while 8% are boys. This is an indication that wastages exist in all levels of education system in Kenya and therefore there is need to carry out research and possibly influence policy formulation in an attempt to curb student repetition.

The secondary school cycle in Kenya faces Internal Efficiency challenges such as low transition rates between primary and secondary schools as well as high repetition rates. At both the primary and secondary schools, low internal efficiency levels is experienced as evidenced by high repetition rates and low progression rates (ROK, 2003). According to this report, School Size which refers to a school being either Single Stream or More than One Stream, School Regime where a school is either Boarding or Day and School Type where a school is Single Sex or Co-educational largely affect repetition rates. Furthermore, it is noted that some of the causes of primary and secondary schools repetitions include inability to pay school fees due to poverty, hazards of HIV/AIDS pandemic, violence and drug-abuse (Achoka, 2007; ROK, 2003). The declining participation rates and wastage that result from repetition are issues of concern to the government and every effort is being made to address them. To cushion the poor against the effects of SAP, the Government of Kenya has launched the Social Dimension of the Development Programme whose aim is to assist communities and families to participate in income generating activities that could raise their earning levels.

In the manual for Head Teachers, which is a publication of the Kericho Head Teachers Association (2007), Kericho District had a Dropout rate of 28.6 percent, Repetition rate of 22.6 percent and completion rate of approximately 62 percent for most schools. On Dropout rate, girls contributed 18.4 percent while boys' contribution stood at 10.2 percent; Repetition rate had 15 percent and 7.6 percent for girls and boys respectively. Pass rate which is the ability of students to attain atleast grade C in KCSE and which is the minimum requirement for admission into University for further training lies at 37 percent on average for most secondary schools (MOEST, 2003). The trend for repetition rates in Kericho District for the years 2004-2006 is shown in Table 1

Table 1

Enrolment and Repetition rates in Secondary Education in Kericho District in 2004-2006

Year	No. of schools	Enrolment		Repetition	
		Males	Females	Males	Females
2004	64	11,675	7,525	2,639	1,701
2005	67	12,428	7,672	2,809	1,734
2006	71	15,885	8,965	3,590	2,026
Total	202	39,988	24,162	9,038	5,461

Source: MOEST 2006:121

It is therefore necessary for Kenya and other countries to investigate why this trend exists and if possible come up with measures to minimize both repetition levels by way of dealing with their respective causes. Bray (2002) assert that high repetition rate which is notably high among the low-income groups and girls is a serious threat to issues of Internal Efficiency in the school system. Pupils who repeat grades complicate enrolment forecasts, teacher supply forecasts and erode the budget in the education sector.

Objective of the study

(i) To determine the levels of student repetition in public secondary schools in Kericho District by School Characteristics for the years 2004-2007.

Hypotheses of the Study

HO₁: There is no statistically significant difference in the levels of student repetition between public secondary schools of different School Regimes in Kericho District for the years 2004-2007.

HO₂: There is no statistically significant difference in the levels of student repetition between Public secondary schools of different School Types in Kericho District for the years 2004 -2007.

HO₃: There is no statistically significant difference in the levels of student repetition between public secondary schools of different School Sizes in Kericho District for the years 2004-2007.

REVIEW OF RELATED LITERATURE

Education is one of the basic services offered by governments and other stakeholders to society. Authors including Bray *et al* (1996) and Miller (2001) posit that education is a tool for economic development and therefore there is need to constantly review inputs and outputs in the system. If education is to meet the goal of economic development in any nation, then aspects of Internal Efficiency should be examined critically. The term "efficiency" as applied in education refers to the extent to which education yields desirable results to the society and individuals (Ayodo, Gatimu and Gravenir, 1991). According to Woodhall (1972), Internal Efficiency is concerned with the relationship between inputs and outputs within the education system or within individual educational institutions. Output in this case, is measured in relation to internal institutional goals rather than the wider objectives of society. Clearly the two concepts are closely linked, but it would be possible to envisage a school that was extremely efficient in developing skills and attitudes that were not highly valued in society as a whole. In such circumstances, the criteria of Internal and External Efficiency would conflict and the school would be judged Internally Efficient but externally efficient. In the words of Psacharopoulos and Woodhall (1985), to be able to assess the Internal Efficiency of an education system, we need a statement of its aims and objectives together with a range of measures of output that reflect these various objectives and the success with which they are achieved. It may be hard to measure the success with which the wider objectives of education are achieved; but analysts have used such measures as examination scores, cognitive tests in a wide range of subjects; the length of time needed for pupils to reach a required standard; scores on standardized tests of reading ability and of language, mathematics and science skills.

Student repetition levels and School Characteristics

A study that was done by the Ministry of Education Science and Technology in Kenya (MOEST, 2003) on the efficiency levels of the education system indicated that internal efficiency of the education system largely required policy attention. The findings of this study showed that the cumulative repetition rates in primary education have been as high as 14% between standards one and seven. The survival rate at the primary level has been as low as 40%. Although at the secondary school level, the survival rate has been at 84%, the overall performance remains low considering that GER for secondary school level stood at 22%. The study also revealed that at the secondary school level, a total of 2.8 million boys and girls aged between 14-17 years who should have been in secondary schools were not enrolled. Policy measures are therefore required to address the constrained access and to enable the country attain its Education For All (EFA) goals.

A study on rural day schools by Ncube (2004) in Zimbwabwe found that the number of students repeating a level increases with level of schooling. Of the 2527 repeaters over a period of four years, the study established that 5.7% were in form one, 7.6% were in form two, 30.2% were in form three and 56.5% were in form four. A large proportion of those students in forms three and four were those who had failed the "O" level examinations the previous year and had returned to repeat either forms three or four. A similar study by DFID (2001) revealed that repetition reduces completion rate for any given cohort, which further compromises the internal efficiency of rural day schools. In this study, repeating after failing national examination was cited as one of the chief drivers of repetition rates.

A study by Wadende and Akinyi (2002) on student repetitiont in Kericho District and the reasons behind it revealed that in a class of 40 students, six students repeated a class and this rate constituted 15% of annual wastage. This big percentage implies that by the time students move from Form One to Form Four, about 50% of them would have left school or repeated a class. The study also found that most students (54%) leave school in November, which is the month when most schools close for long December vacation. The results of this study further showed that There was also a substantial increase in the number of students who left school in the month of February. This is because this was the time when most schools carried out pregnancy checks on their students. Most students who left school then were girls and this is turn resulted in the number of girls leaving school being more than that of boys. The reasons the study cited for leaving school according to the teachers included early marriage, pregnancy, lack of school fees and truancy. The teachers contended that if students were guided and counselled by community leaders, teachers and parents, the situation would be different. The study also suggested that pregnancy checks should be carried out frequently on girls and punishment meted out to those who behave in a way pre-disposing them to leave school on both gender.

Theoretical Framework

The Theoretical Framework in this study is predicated on the Theory of the Firm also known as Production Function Theory (Alexander and Simons, 1995). The Theory of the Firm is concerned with the transformation of raw materials (inputs) into finished products (outputs). The output is thus a function of factors, which are referred to as inputs. The functional relationship between physical inputs and physical output of a firm is known as production function. Algebraically, production function can be written as $Q= f(L,K,M)$ where Q stands for the quantity of output while L, K and M stand for the quantities of factor inputs – Labour (L), Capital (K) and Raw materials (M) respectively (Benham, 1980). In this study, this Theory looked at an Education system as a firm processing inputs in order to realize output at the end of the secondary school cycle. The relationship between inputs and outputs of a secondary school system which is called the Education Production Function is highly complex since many factors including student ability, home background and socioeconomic factors besides School Characteristics affect educational outcomes or School's Internal Efficiency. The term production function refers to the process by which inputs are converted into outputs (Alexander and Simons, 1995).

A simple Production Function in this study is: I.E= f(Selected School Characteristics). The aspects of Internal Efficiency in this production function equation include student repetition and progression rates. The input-output model illustrating the theory of the firm in a school system is depicted in figure 1

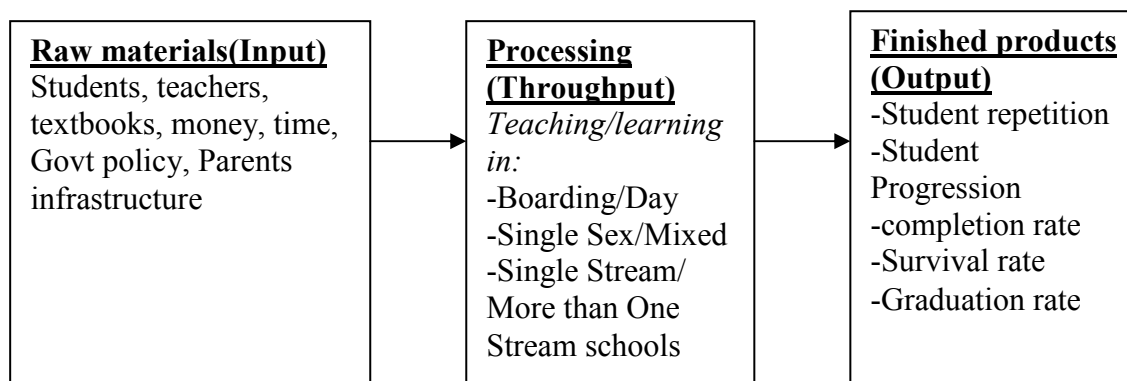| **Raw materials(Input)**
Students, teachers, textbooks, money, time, Govt policy, Parents infrastructure | → | **Processing (Throughput)**
Teaching/learning in:
-Boarding/Day
-Single Sex/Mixed
-Single Stream/ More than One Stream schools | → | **Finished products (Output)**
-Student repetition
-Student Progression
-completion rate
-Survival rate
-Graduation rate |

Figure 1: Input-Output Model in a School System

From figure 1, it can be seen that in the school system, which is viewed as a firm, the raw materials in form of students and other factors that aid in the student teaching and learning process, are fed into the school system. When these raw materials are processed by way of teaching and learning in various institutions of learning with different School Characteristics over a period of time, output is realized at the end of the education cycle. The output as shown in figure 1.1 would be those students who complete the secondary school education cycle while repeaters would represent unfinished products that do not conform to the standards as defined in the production function. Whatever form this output may take, the products of the system will have been processed to some degree.

RESEARCH METHODOLOGY

This study used cross sectional research design, which is a type of survey design normally used in situations where the population of study is large and is examined at a single point in time (Borland, 2001). Cross sectional research design involves collection of data on more than one case at a single point in time in order to gather a body of quantifiable data in connection with two or more variables, which are then examined to detect their pattern of association (Bryman, 2004). This study did not develop new treatments but examined the effects of naturally existing treatments after the occurrence of the treatments. The study examined the aspects of student repetition in public secondary schools for the years 2004-2007, which have already occurred. The design therefore made it possible for the determination of the effects of occurring independent variable, which is school characteristics on the dependent variable namely: student repetition rates.

RESULTS AND DISCUSSIONS

Findings from the study are presented using frequencies, percentages, means, standard deviations and T-test. The levels of internal efficiency specifically student repetition levels according to School Characteristics are presented and discussed. Statistical tests were done using Statistical Package for Social Sciences (SPSS) for windows version 11.5. The study sought to determine the levels of student repetition in public secondary schools in relation to selected School Characteristics for the years 2004-2007. The mean repetition rates for various

class levels in relation to the selected school characteristics for this period are examined. The significance level of difference in student repetition in relation to selected School Characteristics is also examined by testing hypotheses.

Repetition Rates (2004-2007)

The study sought information on repetition rates according to class levels. This information was captured using an item in the Principals' and Guidance and Counselling teachers' questionnaire. The respondents were given three ranges within which repetition levels were expected to lie according to class levels. This information was solicited by the respondents from school records for the years 2004-2007. The information in various secondary schools were coded and fed into the computer using SPSS version 17 for windows; thereafter, the information was cross-tabulated with School Characteristics.

Mean Repetition Rates by School Regime

The first part of this section examined the mean repetition rates by class levels for all the Day and Boarding secondary schools in the District. The second part looked at the mean repetition rates of means for the two categories of schools and the final part tested hypothesis to establish the significance of difference in the mean repetition rates. Table 2 shows the mean repetition rates per class level and according to School Regime.

Table 2

Class Mean Repetition Rates by School Regime

Category of schools	Mean repetition rate	Form 1	Form 2	Form 3	Form 4
Boarding Schools	**Mean N(25)**	1.09	1.14	1.31	1.32
Day Schools	**Mean N(34)**	1.07	1.14	1.32	1.41

Source: Field Data, 2010

From Table 2, there is a general indication that repetition rates increased with the rise in the levels of schooling for both categories of schools. However, there is also a general trend that the mean repetition rate in all classes is higher in Day schools compared to Boarding schools except in form one and two. The highest repetition rate was recorded in form four for both categories of schools though it was higher in Day schools (1.41) compared to Boarding schools (1.32). The high repetition rate recorded in form four for both categories of schools may have been due to students doing KCSE for the second or subsequent times.

A study by Achoka (2007) on the causes of repetition in Kenyan schools indicated a situation where Day schools recorded a higher repetition rates compared to their Boarding counterparts. A further investigation into this scenario revealed that this was largely because Day schools were faced with challenges related to both the school and home while Boarding schools were faced with challenges related to the school environment only. These findings are consistent with the findings of the current study.

In order to gain more insight into the situation, a mean of means on student repetition rates for both categories was calculated from the individual means of the various class levels. The idea behind this was to establish which category of schools recorded the highest mean repetition rate compared to the other. Table 3 shows the mean repetition rates for Day and Boarding secondary schools in Kericho District.

Table 3

Mean Repetition Rates by School Regime

School Regime	N	Mean	Std. Deviation	Std. Error Mean
Boarding Schools	25	1.2344	.34159	.06039
Day Schools	34	1.2865	.30938	.04466

Source: Field Data, 2010

The results in Table 3 show that the Day category of schools had a higher mean repetition rate (1.29) compared to Boarding schools. This study found that repetition in most Day schools was largely due to poor performance in examinations arising from student entry behaviour in form one and student absenteeism. These two contributors to student repetition as the study found had been minimized in most Boarding schools. This may imply that students in Day secondary schools repeated classes largely due to the type of environment that they were exposed to. Other studies in the same area show that students' inability to perform well in examinations and absenteeism are the chief causes of student repetition in most schools in Kenya (Chiuri and Kiumi, 2005). This assertion supports the findings of the current study.

Further analysis using t-test was carried out. The aim was to find out whether there was a statistically significant difference in the mean repetition rates between Day and Boarding categories of schools. In order to be able to do this, a hypothesis was postulated and tested. The null hypothesis (H_0) was stated as:

H_0:   There is no statistically significant difference in the Mean Repetition rates between   Day   and Boarding secondary schools in Kericho District for the years 2004-2007.

The t-test model used to test this hypothesis was:

H_0: $\mu_1 = \mu_2$

Where μ_1 and μ_2 represent the mean repetition rates in Boarding and Day schools respectively. The results of this analysis are given in Table 4

Table 4

t-test on Mean Repetition Rate by School Regime

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	.155	.695	-.708	62	.481	-.0521	.07362
Equal variances not assumed			-.693	61.956	.491	-.0521	.07510

t-critical (df=2,62, t= 1.96, p≤0.05); t-calculated (df=2,62, t= -0.708, p=0.481)

The results in Table 4 reveal that the differences in mean repetition rates for Day and Boarding schools were not significant (t calculated= -0.708 < t critical = 1.96 and p= 0.481 > 0.05). Therefore, the null hypothesis is accepted. This implies that repetition rates for both Day and Boarding schools are not very much different though variations in these levels exist. This may also mean that the factors causing student repetition in both categories of schools may be similar though they may be more apparent in Day compared to Boarding category of secondary schools. Other studies on student repetition indicate a trend that depict this rate to be high in Day schools compared to Boarding schools. A comparative study on student repetition in Boarding and Day schools by Lewin (2006) found that student repetition in rural Day schools was high when compared to their Boarding counterparts. The study concluded that intervention measures to curb repetition should be different for both categories of schools since the levels as well the factors seen to be contributing to these levels were different. The findings of the current study are inconsistent with the view of Lewin (2006) since this study recommends same intervention measures on student repetition rates for both Day and Boarding secondary schools.

Repetition Rates by School Type

Responses from Principals and Guidance and Counselling Teachers on repetition rates were analyzed in terms of their means according to class levels against the School Type Characteristic. The first part was the mean responses according to class levels for both Mixed and Single Sex categories of schools while the second level was an analysis of the mean repetition rates with respect to each category of schools. The final part was an assessment of whether the difference in mean repetition rates was significant between Mixed and Single Sex schools through hypothesis testing. Table 5 shows the distribution of mean repetition rates by School Type and according to Class levels.

Table 5

Mean Repetition Rates by Class Levels and School Type

Category of schools	Mean repetition rate	Form 1	Form 2	Form 3	Form 4
Single Sex Schools	Mean (N=43)	1.10	1.20	1.28	1.36
Mixed Schools	Mean (N=21)	1.09	1.12	1.19	1.22

Source: Field Data, 2010

The results in Table 5 show that the mean repetition rates for both categories of schools increased with increasing levels of education. There is also an indication that this rate was higher in Single Sex schools compared to Mixed schools in all classes. Conspicuous in these results was the highest repetition rate in form four for both categories of schools though the Single Sex category recorded a higher student repetition rate (1.36%) compared to the Mixed schools (1.22%). However, other studies by IIEP (2001) have shown the highest repetition rates in secondary schools occurred in form three. The chief reason that the study cited as causing this high repetition rate in this class level is that most schools forced students who had not passed examination in this class level to repeat with the aim of ensuring that those who proceeded to form four had qualified enough to be able to do well in national examinations. This finding contradicts the findings of the current study. However, these results concur with those of IIEP (2001) since both studies found that repetition rates increased with increasing levels of education.

A mean repetition rate was calculated for each category of schools in order to further establish which category of schools had the largest bulk of repeaters irrespective of their class levels. This was done by adding the mean repetition rates for all class levels in each category of schools and obtaining the corresponding averages. Table 6 shows the mean repetition rates for the Mixed and Single Sex categories of schools.

Table 6
Mean Repetition by School Type

School Type	N	Mean	Std. Deviation	Std. Error Mean
Single Sex Schools	43	1.2500	.30794	.04009
Mixed Schools	21	1.1550	.36146	.07888

Source: Field Data, 2010

From the results in Table 6, it is evident that Single Sex schools had the highest mean repetition rates compared to Mixed schools. This was partly because the number of Single Sex schools in the District was twice that of the Mixed schools. The findings support other studies that have been done on student repetition. A study by Desarrollo (2007) in Latin America observed that as schools expanded in this region to accommodate more students, the number of students who repeated classes increased. The basic reason that the study gave as causing repetition in Latin America was simply the rise in student numbers. A similar view is held by Hinnum and Park (2004), who in a study on Internal Efficiency in rural schools in China found that repetition rates increased with increase in student numbers.

In view of the differences in means on student repetition rates between Mixed and Single Sex schools, a t-test was carried out at α= 0.05 to determine whether there was a statistically significant difference in the mean repetition rates. The null hypothesis (H_0) tested was:

H_0:   *There is no statistically significant difference in the Mean Repetition rates between Single Sex and Mixed secondary schools in Kericho District for the years 2004-2007.*

The t-test model used to test this hypothesis is:

H_0: $\mu_1 = \mu_2$

where μ_1 and μ_2 represent the mean repetition rates in Single Sex and Mixed schools respectively. Table 7 gives a summary of the t-test results on mean repetition differences.

Table 7
t-test on Mean Repetition Rates by School Type

Levene's Test for Equality of Variances			t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	3.18	.078	-.726	62	.470	-.0595	.0819
Equal variances not assumed			-.673	30.95	.506	-.0595	.0884

t-critical (df=2,62, t= 1.96, p≤0.05); t-calculated (df=2,62, t= -0.726, p=0.470)

The results in Table 7 show that the mean differences in repetition rates were not significantly different as indicated by the critical value of t (1.96) which is greater than t-calculated (-0.726). The p-value of 0.470 is greater than 0.05, which is a further evidence that the differences in mean repetition rates between Mixed and Single Sex schools are not significantly different from each other. Based on these results, the null hypothesis was accepted and the conclusion made that the repetition rates that exist in Mixed and Single Sex schools are not very different. Another conclusion drawn is that the factors causing student repetition in both categories of schools may be more or less the same.

These findings are inconsistent with those of Cowell and Holsinger (2000) who carried out a study on repetition rates between Mixed and Single Sex schools in European countries. This study found that the difference in repetition levels between the two categories of schools was quite high with those from the Single Sex schools recording the highest percentage of repeaters. When a t-test was carried out on the mean repetition differences between the two categories of schools according to the study, the p-value was 0.023, which was less than 0.05. The study rejected the null hypothesis and concluded that there was significant difference in the repetition rates between the Mixed and Single Sex schools. The study further recommended different interventions on student repetition for the two categories of schools since they found that the factors causing student repetition were different for each of the different categories of schools.

Repetition Rates by School Size

Responses from Principals and Guidance and Counselling Teachers on repetition rates were analyzed in terms of their means according to class levels against the School size Characteristic. The first part was the mean responses according to class levels for both Single Stream and More than One Stream categories of schools while the second level was an analysis of the mean repetition rates with respect to each category of schools. The final part was an assessment of whether the difference in mean repetition rates was significant between Single

Stream and More than One Stream schools through hypothesis testing. Table 8 shows the distribution of mean repetition rates by School Type and according to Class levels.

Table 8

Mean Repetition Rates by School Size

Category of Schools	Mean repetition rate	Form 1	Form 2	Form 3	Form 4
Single Stream	N(18)	1.23	1.25	1.44	1.37
More than One stream	N(46)	1.21	1.16	1.46	1.32

Source: Field Data, 2010

Generally, the mean repetition rate in all classes is higher in Single Streamed schools compared to the More than One-Streamed schools except in form three. In both cases, the repetition rate is higher in form three compared to other classes. However, form three repetition rate is higher in the More than One Stream schools (1.45) compared to Single Stream schools (1.43) (See Table 8). This study established that the More than One Stream schools had a higher repetition rate compared to the Single Stream schools at this class level due to the large number of students they had. For both categories of schools, the mean repetition rate was the highest in form three.

The study found that most schools in the District made students who had not well in form three end of year examinations to repeat for the reason that if they allowed them to proceed to form four they would finally lower their KCSE mean scores. Other studies that have been done on student repetition support these findings. The view held by ROK (1999) that repetition is higher in Single Stream schools compared to Double or Treble Stream schools agrees with the findings of this study. The study also asserts that student repetition is higher in form three for most schools since at this level of education, schools are more concerned about what their students will get for a mean score in form four and therefore those who perform below a certain cut-off are advised to repeat classes.

The mean repetition rate was generated for each category of schools in order to gain more insight on which category had the highest rate. This was done by obtaining the average repetition rate from the individual class repetition rates for each category of schools. Table 9 shows the mean repetition rates for the Single Stream and More than One stream category of schools.

Table 9

Mean Repetition by School Size

School Size	N	Mean	Std. Deviation	Std. Error Mean
Single Stream	18	1.3225	.34971	.07456
More than One Stream	46	1.2875	.30858	.04052

Source: Field Data, 2010

Generally, the mean repetition rate is higher in Single Stream schools compared to the More than One Stream schools. Notably, the number of Single Stream schools were much fewer compared to the More than One Stream schools and the former still recorded the highest mean repetition rates. The study established that most Single Stream schools in the District emphasized on repetition based on students' inability to perform well in examinations. This finding contradicts other studies that have been done on internal efficiency in Small Sized and Large Sized schools. Studies by Dermie, Lewis, and MacLean (2006) and Diriye (2006) on student repetition in urban schools in the United Kingdom found that this rate was higher in Large Sized schools compare to the Small Sized category of schools. The studies also established that student numbers increased, repetition rate also went up but the chief reasons cited for the increased repetition levels included student absenteeism and also that the school administration were faced with challenges of managing large student numbers. Based on these reasons, it became hard for student administrators to follow up on individual student's performance.

Based on the mean student repetition difference that existed between Single Stream and More than One Stream schools, a t-test was used to find out if the differences in repetition rates were significantly different. A hypothesis was postulated and tested at α= 0.05 level. The null hypothesis was stated as:

H_0:   *There is no statistically significant difference in the mean repetition rates between   Single Stream and More than One Stream secondary schools in Kericho District for   the years 2004-2007.*
          The t-test model used to test this hypothesis is:

H_0: $\mu_1 = \mu_2$

where μ_1 and μ_2 represent the mean repetition rates in Single Stream and More than One schools respectively. Table 10 gives a summary of the t-test results on mean repetition differences by School Size.

Table 10
t-test on Mean Repetition Rate by School Size

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | |
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	2.173	.144	1.295	62	.199	.1038	.08017
Equal variances not assumed			1.224	34.139	.229	.1038	.08486

t-critical (df=2,62, t= 1.96, p≤0.05); t-calculated (df=2,62, t= 1.295, p=0.199)

The results in Table 10 show that the mean differences in repetition rates were not significantly different as indicated by the critical value of t (1.96) which is greater that t-calculated (1.295). The p-value of 0.199 is greater than 0.05, which is a further evidence that the differences in mean repetition rates between Single Stream schools and More than One Stream schools is not significant at 5% level of significance. Based on these results, the null hypothesis was accepted and the conclusion made that the repetition rates that exist in Single Stream and More than One Stream schools are not very different. Another conclusion is that the factors causing student repetition in both categories of schools may be more or less the same though few factors may be unique to each category.

Summary of findings

The study examined student repetition in public secondary schools in the District according to selected School Characteristics. In the School Regime category of schools, the study established that student on student repetition, this rate was higher in the Day compared to Boarding schools for all classes except in form one. The mean difference in repetition rates was therefore higher in Day category of schools compared to their Boarding counterparts though the hypothesis formulated and tested indicated no statistically significant difference (p-value >0.05) hence the null hypothesis was accepted. The null hypothesis for this test was therefore rejected.

On the School Type category of schools, repetition rates for both categories of schools indicated a trend which showed that this rate increased with increasing levels of schooling. This rate was higher in Single Sex schools compared to Mixed schools though the difference in mean repetition levels was not significant at 5% critical alpha.

The School Size category of schools indicated that on repetition rates, findings showed that this rate was higher in Single Stream schools compared to the More than One Stream Schools in all the classes. The mean repetition rate was therefore higher for Single Stream compared to the More than One Stream schools and the t-test results also showed that mean repetition difference between the two categories of schools was not statistically significant (t=0.199>0.05). The null hypothesis was accepted at 5% critical alpha.

Conclusions

The study investigated the relationship between repetition rates and selected School characteristics. It emerged that for the School Regime category of schools, repetition rates increased with increasing levels of education though the general trend was that the mean repetition rate was higher in Day schools (1.29) compared to the Boarding category of schools (1.23). The trend remained the same in the two categories for all classes except in form one. The study concluded that this trend may have been due to academic performance which was low in Day compared to Boarding schools. Similarly, the t-test results for the two categories of schools on mean repetition rates difference indicated that there was no significant difference (t=-0.708, p=0.481>0.05). The study further concluded that since the difference was statistically not significant, there may have been no major difference in the factors contributing to the repetition levels in the Boarding and Day categories of schools.

The study showed that on the School Type category of schools, mean repetition rates increased with increasing levels of schooling for both Single Sex and Mixed categories of schools. However, repetition rates were higher in the Single Sex category of schools compared to the Mixed schools and this led to the conclusion that the latter had put in place more measures to curb student repetition compared to the former. The t-test results showed that there was no statistically significant difference in the mean repetition rates for Mixed and Single Sex categories of schools (t=-0.726, p=0.470>0.05). The null hypothesis (H_0) was accepted at 5% significance level. Based on this finding the study concluded that had more less the same repetition levels and factors contributing to student repetition. These results concur with those of IIEP (2001) which found that student repetition existed

in schools in schools of different Characteristics and the levels were not significantly different.

The study found that on the School Size category, the mean repetition rate was generally higher for the Single Stream category of schools compared to the More than One Stream schools in all the forms except in form three. In addition, the study found that the overall mean repetition rate was higher for the Single Stream schools compared to the More than One Stream schools. This finding led to the conclusion that most Single Stream schools may not have put in place enough measures to minimize student repetition and that the factors that inhibit student retention rate in schools to course completion were more prevalent in the Single Stream category of schools compared to the More than One Stream schools. Similarly, the t-test results for the equality of means between Single Stream and More than One Stream showed that there was no statistically significant difference in their means ($p > 0.05$). Therefore, the null hypothesis (H_0) stating that no significant difference existed between student mean repetition rate in the More than One Stream and Single Stream schools was accepted.

Recommendations

The study found that repetition rates increased with the rise in the levels of schooling for both Day and Boarding categories of schools. However, there is also a general trend that the mean repetition rates in all classes was higher in Day schools compared to Boarding schools. This study recommends that the MOEST should investigate why this trend exists in Day schools and possibly come up with measures to improve on Internal Efficiency levels through reduced repetition rates. The Ministry could form task forces to study the variables that are unique to Day schools and are perceived to be contributing to repetition rates and come up with the way forward. What exists in Boarding schools and is perceived to have been used to minimized repetition rates should be emulated by the Day category of schools.

Repetition rates also as this study established were higher in the Single Sex schools compared to the Mixed schools for all classes. This study found that largest percentage of repeaters from both categories of schools came from those students who had not done well academically and were required by their individual schools to repeat classes with the aim of improving the following year. Others repeated classes due to inability to pay fees in time and they were frequently absent from school as they were frequently send home to look for school fees. This frequent absenteeism led to poor academic performance, which ultimately led to student repetition. Based on these observations, this study recommends that the MOEST should expand their scope of support for the needy students so that failure due to school fees by these students is minimized. On the high levels of student repetition from the Single Sex schools, this study recommends that the MOEST could direct more resources including teachers and books to these schools so that teaching and learning is improved.

This study also established that the mean repetition rates in all classes were higher in the Single Stream schools compared to the more than One Stream schools except in form three. In both cases, repetition rates were highest in form three compared to other classes. This study recommends that there is need to improve the conditions of learning in the Single Stream schools so that repetition rates are minimized. The conditions of learning that could be improved include good student teacher relations, adequate teaching and learning facilities, well developed infrastructure and student individualized attention.

REFERENCES

Abagi, O & Obwocha,W (2001). *'The Impact of politicized Education reforms on quality of Secondary Education: Experience from Kenya'.* In Watson K et al Educational dilemmas: Debate and diversity. London: CASSEL

Abagi, O & Obwocha, W (2000) *"Household Based Factors as determinants of School Efficiency in Kenya.* Research Report, Nairobi: AAS

Achoka, JSK(2007). *Kenya's Management of secondary school in the 21st century*: New Model for Excekeboe. J. STEM; 1:2.

APA (2004). *Publication manual, fifth edition,* Washington DC Author: Washington Press.

Ayodo, T.M.C., Gatimu K, & Gravenir (1991). *Economics of Education. Nairobi:* University of Nairobi Press.

Bedi, A.S, Kimalu,P.K., Manda, D.K. & Nafula, N.N (2004). *'The Decline in Primary Enrolment in Kenya'.* Journal of African Economies, Vol. 13 No. pp1-43.

Borg WR & Gall MD (1995) *Educational Research*. New York: Longman

Borland KW (2001). *Qualitative and Quantitative Research:* A complementary balance. New directions for Institutional Research.

Bray M, Clarke PB & Stephens D (2002). *Education and Society in Africa*, London: Edward Arnold.

Buckingham, J. (2003). *Reflections on class Size and Teacher Quality. Issue Analysis, No. 29a,* California Department of Education fact book 2005, retrieved September 1, 2010 from http://www.cde.ca.gov/re/pn/fb/index.asp

Chiuri, W. & Kiumi (2005) *Planning and Economics of Education*. Nairobi. Pangolin Publishers.

DFID (2001) *Vietnam Education System*. http/www.Vietnam tourism.com/e pages/business eco/slk/Education/E/htm.

Davidson, J. & Kanyuk, M.(1993). *An Ethnographic study of Factors affecting the Education of Girls in Southern Malawi*. Chancellor College, Zomba.

Dowling P. & Brown, A. (1998). *Doing research/Reading research*: A mode of Interrogation for Education. London: The Falmer Press.

Education Forum (1999). *"Gender and Equity as a challenge for implementing EFA: Recounting gender issues in the provision of Education For All in Kenya."* Basic Education Forum, Nairobi.

Eisenmon, T. (1997). *Reducing Repetition: Issues and strategies*. Paris: IIEP-UNESCO

Gatawa BSM (1998). *Quality- Quantity Dilemma in Education*: The Zimbabwe experience. Harare: College Press

Gibbs, G. & Spouse, J. (1997). *The effects of Class Size and form of assessment on nursing students' performance:* Approaches to study and course perceptions, Nurse Education Today. Nicosia: Cyprus University press.

GOK (2005). *Geographic Dimensions of Well-Being in Kenya: Where are the poor?* From Districts to Locations., Vol. 1, Government Printer, Nairobi.

GOK (2004) *Ministry of Education, Science and Technology*; *Report of the Task Force on Implementation of Free Primary Education:* Nairobi Jomo Kenyatta Foundation.

Haddad & Wadi (1998). *Educational and Economic effects of Promotion and Repetition practices*. World Bank Staff Working paper no. 319. Washington, D.C.

Heneveld, W. & Craig, S. (1994). *Planning and Monitoring the quality of primary education in Sub- Sahara Africa*. Washington, D.C., Human Resources and Poverty Division, School efficiency, African Region: World Bank.

IPAR (1997). *"Public and Private Investment in Primary Education in Kenya:* Agenda for Action." Discussion paper No. ED/001/97. Nairobi

Kathuri,N.J. & Pals, D.A. (1993) *Introduction to Educational Research. Egerton University, Njoro, Kenya:* Education Media Centre. Act press.

Kapasaka, A.M.(1992). *Determination of Girls Participation and Persistence in schools in Malawi:* World Bank Population adnHuman Resources Division; Southern African Department.

KDHA (2007). *A Handbook Manual for Head Teachers*. A Publication of the heads Association, Kericho District. Amu Press

Keller, Warrack & Bartel H (1994) *Statistics. Carlifornia*, Duxbury press.

KES (2006) *A Survey on the Status of Education in Kenya: An examination on Dropout and promotion rates in the school system*. Nairobi, Government printer

Koros, K.A.P (2006), Unpublished Masters thesis on *Stakeholders perceptions on parental contribution secondary school management in Kericho District*. Egerton University

Kyungu, S. (2000). *A hand book manual for head teachers on Enrolment and wastages in Education*. Nairobi.

Leedy, P.D (1997) *Practical Research. Planning and Designing, New York*: Mcmillan.

Lockheed C (1993) *Effective schools in Developing countries*. London: The Falmer press.

Lockheed, M.E. et al. (1991). *Improving Primary Education in Developing Countries*. World Bank: Washington D.C.

Lucey, T. (2002) *Quantitative Techniques*. London: Continuum.

Marabi R.L (2005): *An investigation on performance of Public Primary School Teacher after the introduction of Free Primary Education*. Selected schools in Nairobi province; Unpublished project paper, Kenya Institute of Management, Nairobi.

Meadows K.A (2003). *So You Want To Do Research?2: Developing Research Questions*. British Journal of Community Nursing.

McMillan J.H & Schumacher, S. (1997). *Research in Education. A Conceptual Introduction*. New York: Longman.

ROK (1999). *Totally Integrated Quality Education and Training*. Nairobi: Government Printer.

MOEST (2002). *Effectiveness and Efficiency in the Management of Schools*. A Handbook for Head Teachers on the Management of Secondary Schools in Kericho District. A Publication of the Ministry of Education.

MOEST (2003) *An overview on Human Development through Education and Training: Policies and Programmes priorities:* Nairobi, Government printer.

Mugenda, O.M. & Mugenda, A.G. (1999) *Research Methods. Qualitative and Quantitative Approaches*. Nairobi. Act Press.

Ncube, N.J. (2004). *Managing the quality of Education in Zimbabwe:* The Internal Efficiency of Rural Day

Schools. Unpublished Phd thesis. Harare, University of Zimbabwe

Ngware, M.W & Onsomu, E.N. (2006) *Improving Access to Secondary Education in Kenya: What can be done?* Equal Opportunities International Journal.

Njeru, E. & Orodho, J.A. (2003). *Access and Participation in Secondary School Education in Kenya.* Emerging Issues and Policy Implications, IPAR DP 037/2003, Regal Press Kenya Ltd, Nairobi.

Oppenheim A.N. (1996). *Questionnaire Design, Interviewing and Attitude Measurement.* London: Pinter Publishers.

Orodho, J.A. (2005). *Statistics made User Friendly for Educational and Social Science Research*. Masola Publisher.

Psacharopaulos, G. & Woodhall, M. (1985). Education and Development: An Analysis of investment choices. New York: Oxford University Press.

Tuckman B.W (1994). *Conducting Educational Research.* New York: Harcourt Brace College.

UNESCO, (2005). Challenges of Implementing Free primary Education in Kenya: British Educational Research Journal, Volume 30, 3.395-411.

UNICEF (2002). A Review of evaluation of UNICEF Education activities (1994-2000). Paris: UNICEF

World Bank (2001). "*Internal Efficiency of and costs of Higher Education in Kenya*"(Draft) by E. Ndungutse, Washington D.C; The world Bank.

World Bank (2003) *"Cost and Financing of Education. Opportunities and obstacles for Expanding and improving Education in Mozambique"* A working paper series, Africa Region, World Bank.

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:
http://www.iiste.org

CALL FOR PAPERS

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. There's no deadline for submission. **Prospective authors of IISTE journals can find the submission instruction on the following page:** http://www.iiste.org/Journals/

The IISTE editorial team promises to the review and publish all the qualified submissions in a **fast** manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar