

# **Influence of school strategies on internal efficiency in constituency funded day secondary schools in Nairobi, Kenya**

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## **ABSTRACT**

The purpose of this study was to establish whether the existing school strategies achieve the expected high level of internal efficiency, in day secondary schools built and funded through Constituency Development Fund. The role of school strategies is critical for the realization of government initiative of improving access and affordability of secondary school education by students from poor backgrounds. A mixed research method was used with longitudinal survey and phenomenological designs to collect both quantitative and qualitative data. The data was collected through analysis of school document, questionnaires and discussions from 10 principals who were purposely selected, 10 class teachers who were randomly sampled and 84 Form Four students who were also purposely selected. The quantitative data were analyzed using descriptive statistics (mean and percentages) while qualitative data in narrative form (reported speech). The findings showed that most of the school strategies did not improve the internal efficiency of these schools. There was high progression and completion rate only in three schools where full bursaries were awarded to the needy students. The schools therefore were internally inefficient with an average coefficient efficiency of 51% against the expected level of 100%. The inefficiency was caused by high number of transfers and dropouts that persisted across all schools despite the strategies. The researcher therefore recommends an improvement of the strategies particularly the provision of full financial support to needy students, securing of the schools' compounds and expansion of the schools' infrastructure.

**Keywords:** School strategies, progression rate, completion rate, internal efficiency.

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## **INTRODUCTION**

Secondary school education is a transitional level from primary to tertiary education. This level of education provides a basis for acquiring insights, skills and competences required at the higher levels of education and in the labour market (UNESCO, 2012; Republic of Kenya, 2013a; Africa-America Institute, 2015). The World Bank (2013) explains that investing in secondary education contributes to increased productivity for sustainable economic development and poverty reduction. Given the benefits accrued from secondary school education, safeguarding the internal efficiency of schools at this level is paramount. Internal efficiency broadly refers to the input output ratio in a given system.

In education, the concept focuses more on measurable aspects such as the ability of an educational institution to educate the students and turn out its graduates (Hada, 2008; UNESCO Institute for Statistics (UIS), 2009). Therefore, internal efficiency is realized when there is maximum enrolment in a cohort and maximum number of graduates from the same cohort at the end of the stipulated education cycle. In order to safeguard the internal efficiency of schools, appropriate strategies should be established to ensure students access, progression and completion of their studies.

A report by World Bank (2014) shows that most developed countries had high internal efficiency with

completion rates above 90%. Research has shown that most of the developed countries with high internal efficiency have strategies in place to assure access to secondary school education. These strategies such as free and compulsory secondary school education were major drivers towards realization of the attained high internal efficiency (UIS, 2011). The World Bank report of 2014 further shows that most African countries have low internal efficiency that is below 40%. In Kenya, to improve on internal efficiency of schools, the government made secondary school education accessible and affordable to the poor in rural areas and urban slums by constructing more public day secondary schools.

According to Republic of Kenya (2004), public day secondary schools built from this period were largely constructed through constituency development fund (CDF) kitty instituted through CDF Act No.11 of 2003. This implied that the parents were spared the cost of building schools. In addition, in the year 2008 the government rolled out tuition free secondary education (TFSE) programme, a subsidy meant to further lower the cost of education (Republic of Kenya, 2008). The students enrolled in constituency funded day secondary schools benefited from this tuition subsidy making the cost of education even lower and affordable. Given that the cost of education in these day secondary schools was much lower than the other categories of schools; this research found it necessary to establish whether students enrolled in these schools completed their education.

A study by Ndolo et al. (2016) indicates that the initiative of tuition free secondary school education by the government of Kenya improved access across the country. However, some forms of inefficiencies continue to be reported especially in day secondary schools. The reviewed studies show that some cases of dropouts and repeaters were still prominent. For example, according to Republic of Kenya (2014) public secondary repeaters in the country totalled to 370 and 432 for boys and girls respectively. A study by Mwangi (2012) established that internal efficiency was yet to be realized in Machakos District due to high rates of repetition, drop out and hence low progression rates in the schools. Another investigation by Macharia (2013) shows that despite introduction of tuition free secondary education programme repeater rates increased causing internal inefficiency in Gatanga District. The finding concurs with that of Mwangi (2012). The study of Kiveu and Maiyo (2009) in Bungoma District had also focused on wastage variables of internal inefficiency that were dropout and repetition. Their study established that in Bungoma District wastage was apparent due to cost sharing between the government and the parents. Another study by Okungu et al. (2014) established that dropping out in public secondary schools in Kisumu County was influenced by the category of schools, fee payment, sex of the student and examination performance. On their part Murumbakiveu et al. (2017) established factors

influencing internal efficiency in public secondary schools were such as cost of education, pregnancy, discipline, drug use among others. These studies recommend strategies to address the factors causing inefficiencies such as lowering the cost of education and introduction of guidance and counselling but their application remains scanty.

The review of studies further shows that public day secondary schools in Nairobi County also continue to face some internal inefficiency. A study by Ondere (2012) show that dropout especially among the girls in mixed day secondary schools in Kasarani Districts was caused by several factors such as pregnancy and cost of education. Investigations further show that several challenges facing constituency funded secondary schools were also likely to have a negative effect on student secondary school progression and completion rates. For example, according to Nairobi Council County (NCC) (2014), although the initiative to set up constituency funded day secondary schools within existing primary schools was noble, it created problems of resource allocation between these schools. In addition, vandalism of schools' property and insecurity experienced by teachers and students affected smooth running of the schools. These issues coupled with the other mentioned challenges could have affected participation, progression and completion of secondary school education by the students. The NCC (2014) recommended for the provision of appropriate fencing and security guards to address the problem of insecurity.

Apart from governments' initiatives of improving schools' internal efficiency, studies further points that school based strategies play a key role in enabling the students to stay in school up to the end of their studies. A study by Lamb and Rice (2008) on effective strategies for increasing school completion rate in State of Victoria established several students focused strategies that were effective. These strategies included mentoring of students, careers guidance, family outreach, targeted financial support and targeted assistance for skill development among low achievers. There was need to establish the extent of application and effect of such strategies in constituency funded day secondary schools in Kenya. An investigation in Kenya by Kaguma (2012) suggested possible strategies for improving students' retention in schools up to the end of their studies. The recommended student-related strategies were invitation of female guest speakers, teachers being good role models, use of outstanding students as speakers, provision of good meals, transport, providing personal needs and control of boy-girl behaviour. A study by Nthiga (2014) explored strategies for enhancing learners retention in public secondary schools. The strategies widely applied included parental involvement, learners sponsorship and management of students' discipline.

From the literature reviewed the benefits of secondary school education can not be overstated. Globally

education access, progression and completion can only be assured if appropriate strategies are implemented. The establishment of constituency funded day secondary schools by the government of Kenya was aimed at improving access and affordability among the needy students in rural and urban slums. However, these schools continue to face challenging issues that required to be addressed. School based strategies have been recommended for addressing the challenges but there is scanty information on the success of such strategies in improving internal efficiency of these schools which motivated this research.

### Statement of the problem

Although the initiative of day secondary school education was a noble idea, several factors continue to hinder students' progression and completion of education at this level. From the reviewed studies these factors range from socio-economic to school and student related issues. The socio-economic factors are due to high levels of poverty in rural and urban slums that make parents unable to pay for services not catered for by the government. Additionally, the schools lack adequate facilities and in some the environment is insecure for students. The students' related issues range from indiscipline to drug abuse and pregnancies among the girls. Despite the government initiative to improve access, progression and completion of secondary school education, several school based strategies are recommended for addressing the negating factors. Some of the strategies include learners' financial support, parental involvement and guidance and counselling. The effect of these strategies on internal efficiency remains unclear. In addition, the reviewed literature recommend a variety of strategies such as invitation of guest speakers/mentors, careers guidance managed by appropriate qualified staff, provision of good meals and transport to students among others. The application and effect of such strategies remains unexplored. The study therefore aimed at investigating the influence of instituted school strategies on internal efficiency in constituency funded day secondary schools in Nairobi County.

### Research question and objectives

The study addressed the following question:

To what extent have the school strategies instituted by constituency funded day secondary schools in Nairobi County improved their internal efficiency?

In addition, the following three objectives guided the study:

i) To establish the internal efficiency of constituency funded day secondary schools against instituted school strategies;

ii) To investigate perceptions of school principals, class teachers and students on instituted school strategies;

iii) To identify other strategies and make recommendations for improving internal efficiency in the schools.

### Theoretical framework

The study was guided by the Systems Theory. According to Kast and Rosenzweig (1972) and Gillies (1982) the basis of a System Theory is that all the components of an organization are dynamic network of interrelated elements and changing one variable might influence many others. According to Amanuel and Nam (2011), a system is a set of interrelated elements, interacting together towards a common goal. These elements include the input, transformational process (or strategies and activities) and the output such as intended result. The Systems Theory was useful in enabling the researcher to identify the need for the study which in this case was assessing the influence of school strategies on internal efficiency in constituency funded day secondary schools and defining specific objectives for investigating the problem. In addition, the research was carried out using stipulated research processes, data analysed and after which recommendations were made for implementations to address the needs identified.

The System Theory was further useful in this study because schools are open systems made of different components. These components are interrelated and their interactions affect each other in the realization of certain outputs. A school is a system with inputs, processes and outputs variables. In this study, the school strategies were expected to influence the internal efficiency of constituency funded day secondary schools as follows: At the entry point the school strategies were expected to enable the schools to enrol maximum number of students (45) in a class in accordance with the Ministry of Education guidelines (Republic of Kenya, 2015). Once the students were enrolled the school strategies were further expected to enable the enrolled students stay and learn in these schools up to the end of their four year course and sit for their final examination. This implies that positive interaction between school strategies and enrolled students would ensure more students graduated and vice versa.

The school also being an open system interacts with environment outside it which impact positively or negatively on the school's internal efficiency. The external environments include government policies and home environments. The researcher factored these into the study through assessment of some school strategies that interconnected with external environment. Such strategies included sourcing for funds and bursaries for needy students from government, non-governmental organizations (NGOs), constituency development fund (CDF) and well-wishers. These strategies if realized were

expected to help the constituency funded day secondary schools achieve the expected high internal efficiency.

## METHODOLOGY

The study used both quantitative and qualitative approaches that applied longitudinal survey and phenomenological designs respectively. The target population was 1029 members. This target population included all the 24 school principals, 50 class teachers and the 955 Form Four students in the 24 constituency funded day secondary schools. The statistical formula for finite population given by Kothari (2004) was used to calculate the sample size for the study. The obtained sample size was 10 schools, 10 school principals and 10 class teachers. To sample the 10 schools, the existing 24 constituency funded day secondary schools were stratified into single and mixed gender schools after which proportional simple random sampling technique was used to sample schools from each stratum. The 10 principals from the ten sampled schools were therefore automatically included in the sample. The 10 class teachers were also sampled from each school. Where there was more than one class teacher in double-streamed and three-streamed schools, one class teacher was sampled using simple random sampling technique.

A group of 12 students from each school to participate in the focus group discussion was purposively selected on arrival at the school. The insights from the studies of Overseas Development Institute (ODI) (2009), Frank (2012), USAID (2013) and Oxfam (2019) that recommends 6 to 12 people in a focus group discussion guided the selection of this number of students. Purposive sampling assisted in selecting students of mixed abilities, mixed gender, from different social economic backgrounds and willing to participate in the focus group discussion. This was done with the help of class teachers in some schools and others by schools' deputy principals where the class teacher was not available. In addition, class mark books, records of co-curricular activities and fees payment records were further used as a guide in the selection exercise. From the sampled schools, documents deemed to contain the required information on students' enrolment, drop outs, repeaters and evidence of instituted schools' strategies were also purposively selected for analysis. The documents included schools' admission registers, class registers and mark books. The others were schools' fees payment schedules, lists of bursary awards from constituency bursary fund and schools' internal bursary kitty, records of guidance and counselling, discipline cases, co-curricular activities, lunch menus and schools' time tables.

The collections of data were done through the use of questionnaires, discussions and document analysis guides. The questionnaires were given to school principals and class teachers while the discussions were

held with the students. The sampled schools' documents were subjected to analysis. The quantitative information was analysed using descriptive statistics that are mean and percentages. The qualitative data on the other hand were organised into categories and analysed narratively using reported speech. The entire process put ethical considerations in place; that is obtaining the authorization documents for conducting research from all the relevant institutions and seeking consent from all the participants. In accordance to American Psychological Association (APA) (2010) guidelines, confidentiality was observed during reporting for the purposes of protecting the participants and the schools from any form of harm. In addition, the ideas of other researchers and scholars were also acknowledged in the writing and reporting of the information in this research.

## RESULTS

The study set out to investigate the influence of instituted school strategies on internal efficiency in constituency funded day secondary schools in Nairobi County. Ten of these schools were targeted but only nine consented to have this study conducted in their schools. In addition, the respondents included school principals, class teachers and students from these schools. However, in two secondary schools all the respondents apart from the Form Four students were available. The Form Four students in the two schools were not available for focused group discussion as they were preparing for KCSE examination. The report of this study is therefore based on the findings from nine public secondary schools for quantitative and seven for qualitative data. The schools that participated have been assigned letters for confidentiality of information provided.

### Schools' demographic information

The demographic information of schools is based on the schools' official records and response of participants from questionnaires and discussions. The results are shown in Table 1.

The tabulated results in Table 1 show that the schools were day secondary schools within the slum set up. In addition, these schools had been established through constituency development fund and had taken a cohort of students to Form Four. This information shows that the schools formed a representative sample for this study.

### The internal efficiency of constituency funded day secondary schools against instituted school strategies

The study established that all the nine schools had strategies in place for improving internal efficiency. The

**Table 1.** Schools' demographic information.

School	Location in relation to slum	Type of school	Year established	Number of streams
A	Outskirt of slum	CDF Mixed day	2005	2
B	Middle of slum	CDF Mixed day	2009	4
C	Outskirt of slum	CDF Mixed day	2008	1
D	Middle of slum	CDF Mixed day	2009	3
E	Middle of slum	CDF Girls day	2008	3
F	Outskirt of slum	CDF Mixed day	2008	2
G	Outskirt of slum	CDF Mixed day	2006	2
H	Outskirt of slum	CDF Mixed day	2010	2
I	Outskirt of slum	CDF Girls day	2008	2

Note: Demographic information of schools based on the participants' questionnaires and schools' records.

strategies included financial and infrastructural support, provision of safe and secure school environment, and catering for students' welfare. The financial support strategies were sourcing bursaries for needy students, payment of school fees in instalments and automatic grade to grade promotion. The safe and secure school environment strategies were securing compound with a fence or perimeter wall and deploying security guards. The infrastructural support included providing facilities such as classrooms, dining halls, toilets and play grounds. The students' welfare focused on guidance and counselling, discipline management, provision of meals and recreational activities.

To compute the internal efficiency of each school, data on actual number of students enrolled in Form One and were promoted/survived to subsequent classes up to Form Four after successfully completing the four-year course (sitting for their Kenya Certificate of secondary education (KCSE)) was used. The total number of graduates from an institution was the output of that institution. To establish the 2011/2014 true cohort members, the graduates and finally computation of internal efficiency, information on students' enrolment, dropouts/ transfers, repeaters, survivors and new entrants from Form One to Form Four was used. The retrospective study of 2011/2014 student cohort was done from the schools' records that included admission registers, class registers, mark books and KCSE manual mark sheet. The use of students' admission numbers and names further guided this process. The summary of the 2011/2014 true cohort flow from Form One up to school completion is on Table 2.

The tabulated results in Table 2 show that, 380 students were enrolled in Form One in the year 2011 from the nine (9) secondary schools. However, in the subsequent years the number of true cohort members who got promoted or survived to the next classes kept declining. For example, the number of students who got promoted to form two were 250, to form three 203 and to form four 196 translating into survival rates of 66%, 53% and 52% respectively. In addition, the number of students

who graduated after their KCSE examination was 193 and this translated into a coefficient efficiency of 51% and an input-output ratio of 1.97; against the expected efficiency of 100% and an optimum ratio of 1.00 respectively. The trend of decline in the number of students progressing to Form Four was largely attributed to dropouts and transfers. These drop outs and transfers were 130, 47, 4 and 3 as the cohort transited from form one to two, three and four respectively totalling to 184 students. The enrolment of true cohort members was mostly negatively affected by students' drop-outs and transfers as students transited to form two. However, the number of dropouts and transfers decreased as the cohort progressed to form four and few (3) cases of repeaters was notable in form four.

What was further notable in Table 2 was that three schools that were B, D and E had high internal efficiency of 70%, 79% and 63% respectively unlike the other schools. This was an indication that more than half of the students (85/120) enrolled in form one completed form four. From the background information on Table 1, what was common in the three schools was the location in relation to the slum settings. The schools were either very near or right in the middle of the slum unlike others that were on the outskirts. Apart from the three schools B, D, and E, the other six schools located slightly far from their catchment area had low internal efficiency ranging from 40% to 45%. This implies that although the schools had enrolled many students (260) at the entry point they were not able to retain them up to completion of form four because only 108 students graduated.

The verification of information in Table 2 was further facilitated by the views of the respondents who included the school principals, class teachers and students. Table 3 shows the responses of school principals and class teachers on actual enrolment of students at entry and exit point.

The tabulated results in Table 3 show varying views on students' enrolment from entry to exit point. The slightly more than half of students who enrolled in Form One progressing up to Form Four is given by school

**Table 2.** 2011/2014 student cohort flow.

School	Enrolment in Form 1	Survivors to Form 2	Survivors to Form 3	Survivors to Form 4	Form 4 graduates	Coefficient Efficiency %	Input: Output ratio
A	40	28	18	17	17	43	2.35
B	40	30	31	29	28	70	1.43
C	50	30	18	18	18	36	2.78
D	39	38	33	32	31	79	1.26
E	41	30	26	25	26	63	1.58
F	42	20	18	17	17	40	2.47
G	46	26	23	20	20	43	2.30
H	42	23	18	18	18	43	2.33
I	40	25	18	18	18	45	2.22
Totals	380	250	203	196	193	51	1.97
Survival rate		66	53	52			
Dropouts/Transfers		130	47	4	3		
Repeaters left		-	-	3			
New entrants		105	40	11			

Note: Data on students' enrolment from entry in Form One to completion in Form Four compiled from schools' official records (admission register, class registers and mark books).

**Table 3.** Principals' and class teachers' responses on class enrolment trend of actual students.

Class enrolment (No. of students)	Principals' %		Class teachers' %		Reasons for trend in enrolment	
	Entry	Exit	Entry	Exit	Principals	Class teachers
Above 50 - Over enrolment	11.1	00.0	11.1	00.0		
45- 50 - Good enrolment	44.5	55.6	27.8	00.0	Transfers to boarding schools/few drop outs 55.6 %	
40- 44 - Average enrolment	11.1	00.0	61.1	38.9		Transfers to boarding schools and drop outs due to fees and pregnancy 38.9 %
30 – 39 - Under enrolment	33.3	00.0	00.0	00.0		
Below 30 - Poor enrolment	00.0	44.4	00.0	61.1	Transfer to boarding schools and drop outs due to fees, indiscipline and pregnancy 44.4 %	Transfers and drop outs due to indiscipline and pregnancy 61.1 %
Totals	100	100	100	100	100	100

Note: Data on students' enrolment from entry in Form One to exit in Form Four compiled from school principals' and class teachers' questionnaire.

principals. This is exemplified by good enrolment of 45 to 50 students at entry and exit point respectively shown by a response of 55.6%. Another percentage of students slightly less than half not progressing up to the end of the course are exemplified by under enrolment of 30 to 39 students at entry and poor enrolment of less than 30 students at exit point indicated by 44.4% of the responses. Majority of the students who failed to

progress had transferred to boarding schools and others had dropped out. The drop outs were due to school fees related issues, indiscipline and pregnancy from the principals' responses. According to the class teachers less than half of the students enrolled progressed. This is exemplified by average enrolment of 40 to 44 students at entry point and poor enrolment of below 30 students at exit point shown by a response 61.1%. The students who

left had either transferred or dropped out of school. The low progression was also linked to transfers and drop outs by students. The transfers were due to preference for boarding schools as opposed to day schools while drop outs were caused by school fees related issues, indiscipline and pregnancy among the girls. In addition, the drop out among the boys was attributed to boredom. Such students opted for small scale business like hawking according to their colleagues.

### **Perceptions of school principals, class teachers and students on instituted school strategies**

The strategies for improving internal efficiency in the questionnaire were possibly instituted in the schools because were perceived effective by the school principals and class teachers. However, positive effect of these strategies on internal efficiency were further assessed through the views of students who experienced the process. The responses were further validated through data from the schools' documents that included lists of bursary awards to students from external and internal sources, records of students guidance and counseling, discipline cases and participation in co-curriculum activities. The aim was to assess evidence for positive influence of instituted school strategies on students progression and completion of secondary school education.

### ***School principals' and class teachers' responses***

The application of instituted strategies for improving internal efficiency in the schools was as shown by the extent of agreeing responses of school principals and class teachers on Table 4.

The tabulated results in Table 4 shows that application of the strategies for improving students' secondary school progression and completion varied however, for most of the strategies the agree response was high. For example on six strategies for improving internal efficiency there is 100% agree response while for the other four strategies response ranged between 55.6% and 88.9% by school principals. The only strategy not widely applied was organized school internal bursary kitty with an agree response rate of 22.2%. On the other side, the application of nine strategies was above 66.7% while the other two had 44.4 and 55.6% agreed response from the class teachers.

### ***The students' report***

The discussion with the students on application of the strategies for improving their progression and completion of secondary school education yielded the following report: On the strategy of sourcing bursaries for needy

students, the principals and teachers enlightened the students on where to get the bursaries. Through this insight some of the students acknowledged that they had received bursaries from the constituency bursary fund (CBF) though it got disbursed late. In addition, the bursaries received were too little to offset the outstanding school fees balances. The delay in disbursement and inadequate bursaries led to students being frequently sent away from school for non-payment of full school fees. The send offs eventually made some of the students drop out of school. However, in secondary school B the bursaries awarded to students from their constituency were equal to their outstanding school fees balances. The students appreciated the bursaries received because it assisted them to learn from Form One to Form Four.

The other way of sourcing bursaries for needy students at the school level was through organized school internal bursary kitty. Such a strategy did not exist in six schools. However, in school B there was existence of an organised internal bursary kitty to help the needy students. The teachers, students, parents and well-wishers made their contribution to this kitty; and the money collected was used to offset school fees balance for the needy in the school. This bursary kitty assisted the needy students to complete their secondary school education.

The strategy of allowing parents to pay school fees in instalments was widely used by all the schools. This mode of payment enabled many students to stay in school while their parents continued to raise school fees. In five of these schools, the principals allowed school fees payment in instalments because they understood predicaments faced by the students. The parents/guardians filled commitment forms or wrote an explanatory note on how the remaining amount of school fees would be paid after making the first instalment. However, despite the payment in instalments some of the parents could still not afford to pay the school fees. The failure of this payment eventually made some of the students to be sent away from school. There was no provision of keeping students with unpaid fees in the schools according to the students. This made students with fee balances to be regularly sent away due to inability to pay school fees and eventually such students dropped out.

The automatic promotion of students to the next class as a strategy appeared applicable to some extent. The students in all the seven schools were promoted to the next class in the subsequent years regardless of their performance. The students who repeated were through the request of their parents but the schools did not force them. Another strategy availed in the schools was guidance and counselling. The students were the beneficiaries of guidance and counselling services which they confirmed. The services given to the students by their teachers prevented drop out from the confession by some of the students. Regarding discipline issues, the

**Table 4.** Schools' principals and class teachers' response on application of strategies for improving students' secondary school progression and completion rate.

Variable	Strategies	Principals (%)		Class teachers (%)	
		Agree	Disagree	Agree	Disagree
Students' school progression and completion rate	Sourcing bursaries for needy students	77.8	22.2	66.7	33.3
	Organized school internal bursary kitty	22.2	77.8	66.7	33.3
	Allowing parents to pay school fees in instalments	100	00.0	100	00.0
	Keeping students with unpaid fees in school	55.6	44.4	44.4	55.6
	Automatic promotion of students to the next class	100	00.0	55.6	44.4
	Institutionalized guidance and counselling services	88.9	11.1	88.9	11.1
	Safe and secure school environment for students	100	00.0	88.9	11.1
	Providing enough gender sensitive sanitary facilities	100	00.0	77.8	22.2
	Diversifying students' diet	77.8	22.2	66.7	33.3
	Providing recreational services and facilities for co- curriculum	100	00.0	88.9	11.1
Enhancing student discipline	100	00.0	77.8	22.2	
Mean	Schools' principals and class teachers' responses on school progression and completion strategies	83.8	16.2	74.8	25.2

Note: Data on schools' principals and class teachers' response rate on application of strategies for improving students' school progression and completion in CDFDSS in Nairobi County compiled from questionnaires.

indiscipline students were punished, suspended or referred for guidance and counselling. However, some of the most indiscipline students eventually dropped out or transferred to other schools.

The strategy of providing safe and secure school environment received mixed reactions. The safety and security of three schools was not enough while in three schools environment were fairly safe and secure. The students from schools that reported insecurity had lost their books and schools' computers through breaks in by thieves. In addition, insecurity along the paths in two of the schools was also reported. In secondary school C, insecurity during day time was reported. The insecurity was connected with external fights between hawkers and city council security officers that sometimes extended into the school's compound. There was no incidence of insecurity in one of the secondary schools which was attributed to the school's perimeter wall and its nearness to an army barracks by the students. Generally some security issues were noticeable in some of these schools. For example, although the gates were available, it was only in two schools where the security manning the gates requested for the researcher's personal details and a national identification card. In three schools, the gates were not manned. The schools also lacked perimeter walls and what was common was a fence of wire mesh. The wire meshes appeared firmly fixed in some of the schools while in others were falling apart.

Regarding schools' infrastructure, the schools provided enough gender sensitive sanitary facilities and all with doors. This was evidenced by separate toilets/latrines for girls and boys. However, although five schools had enough toilets the main problem in three of these schools was water for flushing and cleaning. The other two

schools had enough toilets and some running water. However, in two schools students used pit latrines because there was no piped water. The availability of recreational services and facilities such as a playground and students' participation in co-curriculum activities was also established through the students. All the schools had a playground though shared with the primary school section. However, the challenges were potholes, bushy fields and dumped waste from neighbour hoods. Most of the students did not fail to come to school when it was season for sports, music, drama, science congress and visits to other schools. The students missed school any other time but, were present especially when going for music or drama festivals. The out of school activities gave the students an opportunity to meet their friends from other schools and to socialize with them according to these students.

The schools also provided meals to the students although variety of foods was lacking based on the students report. The students from four of the schools said that they had enough food provided for lunch but it was mostly rice with beans or Githeri (maize and beans). The students in the other three schools suggested that they would want variety and increased portions. This was particularly in mixed schools where boys claimed they were not served with enough food. It also emerged that the schools provided students with tea but they were expected to carry their own snacks those who could afford. The meals given were appreciated by the students because for some of them, it was the only meal of the day. However, dining facilities were lacking in four of these schools and temporary structures were in use. Students in the other three schools ate in shifts because the dining halls were small. The students indicated a



need for improvement in this area.

**Information from documents analysed**

The analysis of schools' documents yielded information on the application of school strategies for improving internal efficiency in constituency funded day secondary schools. Table 5 shows this information.

**Suggested strategies for improving internal efficiency in constituency funded day secondary schools**

To gather more information on other possible ways of improving students' school progression and completion rate, the researcher further sorted the views of respondents on some suggested ways. The percentage of school principals and class teachers who indicated that they agreed with the suggestions for improving students' school progression and completion in their schools was as shown on Table 6.

The tabulated results on Table 6 show that the

suggested ways of improving students' school progression and completion rates seemed to have high support by the respondents. This is indicated by a mean response rate of 95.5 and 88.9% from school principals and class teachers respectively. From the same table the suggestion for targeted full bursary or scholarship for needy students up to form four or completion of school was supported by all the school principals. In addition, the improvement of school's recreational services (co-curricular) and facilities to make school more interesting; and having full time teachers for guidance and counselling were also strongly supported shown by 100% response from school principals. The other two suggestions that included intensified public campaign by all stakeholders on importance of secondary schooling and schools' diversifying capital or financial sources to lower the cost of education has 88.9% response by the same principals. In addition, a need to have hawkers selling near the schools moved away by County council government as a way of improving security around the school was suggested by three school principals. Further still a need for improvement of the roads leading to the schools since were impassable during rainy seasons was highlighted by another two principals.

**Table 5.** Institutionalization of school strategies for improving internal efficiency from schools' official document.

Schools' documents	Information obtained from official documents
Lists of bursary awards: from CBF, well-wishers and schools' internal bursary kitty	<ul style="list-style-type: none"> <li>• Some of the needy students received bursaries from the CBF but were little to off set the outstanding school fees balances in seven schools.</li> <li>• Students in schools D and E received both CBF bursaries and assistance from Non-Governmental Organizations.</li> <li>• The existence of internal bursary kitty could not be verified through records in eight schools as they lacked list of beneficiaries but school B had the records.</li> </ul>
Schools' fees payment schedules: cash payment (receipts books) Instalment payment (commitment form) Explanatory notes	<ul style="list-style-type: none"> <li>• Records of fees payment were available in all schools.</li> <li>• Official documents (commitment forms) where parents indicated how the outstanding fee balances would be done in two instalments were available in five schools.</li> <li>• Explanatory notes or explanation by word of mouth that was noted on fees payment was in four schools.</li> </ul>
Guidance and counselling books.	<ul style="list-style-type: none"> <li>• Instituted guidance and had counselling in five schools</li> <li>• Confirmation on existence of guidance and counselling by word of mouth in four schools</li> </ul>
Lunch menus	<ul style="list-style-type: none"> <li>• Rice/ugali with beans twice and thrice a week in six and three schools respectively</li> <li>• Maize and beans twice and once a week in six schools and three schools respectively</li> <li>• Beef with rice/ugali once per week in all the schools.</li> </ul>
Minor and major punishments books	<ul style="list-style-type: none"> <li>• The management of students' discipline was verified in five schools that had these records.</li> <li>• The records of punishment were not available in four schools but class teachers confirmed that indiscipline students were punished though they never recorded.</li> </ul>
Schools' time tables	<ul style="list-style-type: none"> <li>• Normal lessons in all school,</li> <li>• Co-curricular activities had been scheduled from Monday to Friday. This included games, academic and non-academic clubs and societies/movements in all schools</li> </ul>

Note: Information compiled from schools' official documents.

**Table 6.** Respondents' response on suggested ways for improving students' school progression and completion rates.

Variable	Suggested ways	School principals (%)	Class teachers (%)
Students' school progression and completion rate	Targeted full bursary or scholarship for needy students up to form four or completion of school	100	100
	Intensified public campaign by all stakeholders on importance of secondary schooling	88.9	100
	Diversifying capital or financial sources to lower the cost of education to parents	88.9	77.8
	Improving school's recreational/ co-curricular services and facilities to make school more interesting	100	88.9
	Full time teachers for guidance and counselling	100	77.8
Mean	Response on recommendations for improving students school completion	95.5	88.9

Note: Data on respondents' response rate on recommendations for improving students' school progression and completion rates in CDFSS in Nairobi County, compiled from schools' principals and class teachers questionnaire.

The responses were equally high on strategies for improving internal efficiency from class teachers. The strategy of targeted full bursary or scholarship for needy students up to form four or completion of school and intensified public campaign by all stakeholders on importance of secondary schooling has 100% response. The improvement of school recreational services (co-curricular) and facilities to make school more interesting got a response of 88.9%. Having full time teachers for guidance and counselling as a strategy and diversification of capital or financial sources by schools to lower the cost of education to parents has 77.8% response.

The researcher further had sort for suggestions from students. The need to have an improvement of security in the schools as a way of motivating students to learn in day schools was made by students from four schools. To improve on the security of these schools, construction of perimeter walls, securing of the paths to schools with proper fence and an increase of security officers were recommended by the students. The strategy of converting day schools into boarding schools as a way of helping the girl child complete secondary schooling was suggested in two girls' secondary schools. This idea of boarding schools did not get support in mixed secondary schools from majority of the boys though a few girls did. If the schools go boarding the parents were likely not to afford according to these boys. Regarding bursaries to the needy students, an improvement of the bursary award from their constituencies was recommended by majority of the students. The process took long and it was frustrating because the bursary received was too little to offset their outstanding school fees causing some

students to drop out. The increase on amount awarded and timely release of it was recommended by the students.

## DISCUSSION

### The internal efficiency of constituency funded day secondary schools against instituted school strategies

The 2011/2014 student cohort movement in the three directions illustrated on Table 2 concurs with the report of UNESCO (2014) which indicate that after the students are enrolled in a school, they either progress, drop out or repeat a class. The difference in the number of students enrolled at the entry and those who completed at the exit point in this study appears to have been caused by high rate of transfers and dropouts. This movement shows that only half (51 %) of the students enrolled in Form One progressed to Form Four in the same schools. This is an indication of low internal efficiency. The study findings seem to confirm the studies done in Kenya by Sang et al. (2013) and Kanyira (2014). The studies established declined student enrolment in Kericho due to transfers and internal inefficiency in Nyeri due to drop outs respectively. Another study by Getange and Onsombi (2016) in Marani Sub-County of Kisii established poor retention of students in public secondary schools as they failed to complete their secondary school education despite government tuition subsidy.

Although the internal inefficiency persisted across the schools, there are varying statistics in this study. For

example secondary school B, D and E had higher completion rate than others. The nearness of schools B, D and E to the catchment area (middle of slum) could have contributed to high completion rate of secondary school education compared to other schools. The students enrolled in these schools could probably easily walk from their homes to schools unlike those who were staying far away. The finding on effect of distance on students' progression seems to concur with those of Ndung'u (2008) that revealed long distances from home to school affected participation rate of students negatively. This was especially through drop outs before completion of their secondary school education. Another study by Bashir et al. (2018) indicates that longer distances reinforce security concerns especially for girls because they are likely to encounter harassment while commuting to school. This implies that to improve on internal efficiency of constituency funded day secondary schools, there is need to put into consideration the distance of the catchment area when building them.

Apart from students in secondary school B, D and E, majority of the 2011/2014 student cohort members from other schools did not progress up to Form Four. This was evidenced by responses of the school principals, the students and data from the documents analysed. The reasons for the decline were transfers, drop outs due to pregnancies and inability to pay school fees. Some of the study findings concur those by Sang et al. (2013) in Kericho that established transfers of students from day secondary to boarding schools and by Kanyira (2014) in Nyeri that revealed students drop outs was due to school related factors such as school fees and pregnancies among the girls.

### **Influence of instituted school strategies on internal efficiency in constituency funded day secondary schools**

The strategies for improving students' progression and completion rate in the nine schools had varied levels of improvement from the responses of the school principals and class teachers. To determine positive influence of the strategies on internal efficiency, the perceptions of the respondents have been compared against the observed level of internal efficiency. In addition, information from the schools' documents and perception of the students has been used for verification of any effect of school strategies on internal efficiency.

The strategy of sourcing bursaries for needy students has fairly high response by principals and teachers. This implies that some students in the constituency funded day secondary schools benefited from bursaries. The aim was to enable the needy students complete their secondary school education. From the findings, in schools B, D and E where students received bursaries

both from CBF and NGOs they had higher completion rates of 70%, 79% and 63% respectively unlike other schools that had rates less than 50%. A cross examination of the lists of students awarded bursaries from the CBF in the year 2014 further confirmed their stay in school. This to an extent implies that the bursary could have helped the students to progress and complete their secondary school education. This was further affirmed by the strategy of internal bursary kitty that seemed to work well in secondary school B. This school had high completion rate of 70% compared to others (Table 2). The positive influence of financial support to students' schooling concur the finding by Nthiga (2014) that indicate strategies aiming at enhancing learners retention rate should target socially disadvantaged children and provide financial support to them.

The strategy of paying school fees in instalment also has high agree response rate from school principals and class teachers. This is an indication that some of the parents with students learning in these schools and not able to pay school fees in full were allowed to pay in instalments. The mode of fees payment in instalment was further verified in schools' payment schedules. This strategy seemed to have been used as an alternative way of collecting school fees. The plan allowed students to continue with schooling while their parents searched for more funds. The confirmatory response from students on this mode of payment probably implies the strategy was effective. Given that the parents had an alternative of paying fees in instalments, the strategy of keeping students with unpaid fees in schools was not widely applied. This was exemplified with an agreed response of 55.6 and 44.4% by schools' principals and class teachers respectively. This implies half of these respondents did not perceive the strategy effective. This could be a possible explanation for the wide application of school fees payment in instalment as opposed to keeping students with unpaid fees in schools. The students' responses that those with unpaid fees were sent away seemed to confirm the principals' and class teachers' responses. This further shows that failure to keep students with unpaid fees in school affected completion rate negatively. The finding seem to contradict that of Nthiga (2014) done in Kenya that established non expulsion of students from public secondary schools due to non-payment of school fees.

The automatic promotion of students to the next class helped students go through school. The strategy appeared widely applied exemplified in Table 2 by the 2011/2014 student cohort that had only three repeaters. This was further confirmed through the principals' and students' responses. The students confirmed their automatic promotion to the next grade regardless of their performance. The schools' documents also confirmed principals' and students' responses with evidence of very few repeaters. The automatic promotion of students was in line with the government of Kenya policy that

prohibited students from class repetition (Republic of Kenya, 2013b). However, the finding seems to contradict that by Ouma (2017) which established grade repetition in public mixed secondary schools in Nyatike Sub County. The schools had their own grade promotion policy where students were promoted based on their performance in the examinations. The schools' policy went against policy of automatic promotion by the government of Kenya.

Regarding provision of safe and secure schools' environment it appears that the strategy may have had a negative effect on internal efficiency. The constituency funded day secondary schools appeared not safe and secure from the reports of the students and response of some class teachers. There is need for the school principals to step up security measures to avoid loss of schools' property and assure students of their safety in the schools. Although the principals indicated they fully provided safe and secure environment it appears the measures were not sufficient. This is exemplified by lack of security guards, perimeter walls and loss of students' books and computers. In addition, the unfavourable and insecure school learning environment reported in school C could be possibly one of the reasons for the very low internal efficiency at 36% compared to the rest of the schools exemplified on Table 2 earlier. The finding on insecurity concurs with the report of NCC (2014) that established constituency funded day secondary schools were insecure and exposed schools' properties to vandalism. According to the American Institute for Research (2020), a positive school climate (safe and supportive learning environments) can improve learners' school attendance, retention and consequently school graduation rates. This implies that for realization of improved internal efficiency the schools' safety and security requires improvement.

The provision of infrastructural support to an extent also had a positive influence on progression and completion rate. The finding on availability of separate and lockable toilets/latrines for boys and girls implies that most of the schools were gender sensitive. However, lack of water for flushing and cleaning these sanitary facilities and use of pit latrines required to be addressed. Studies have shown that provision of good and enough sanitation was important in encouraging students to stay in school and learn and especially the girl child. According to Bashir et al. (2018), good sanitation facilities especially for girls addressed the issue of drop out before completion of basic education. Apart from toilets, the schools also provided recreational services and facilities for co-curricular based on the responses of school principals and class teachers. This was further confirmed through records of co-curricular activities such as sports and clubs which were an indication for students' participation in co-curricular activities. It was further established that each school had a playground for the co-curricular activities though shared with the primary

section. The finding on good school attendance during seasons for inter schools co-curricular activities is an indication that recreational services influenced students' school participation and completion rate. The involvement of students in the school activities was in line with secondary school curriculum (Kenya Institute of Education, 2012). According to Republic of Kenya (2015), schools are required to initiate programmes such as games, sports, drama and music festivals, athletics among others in order to nurture and develop psychomotor and affective domains of learners' development.

The schools also addressed the welfare of students through guidance and counselling, discipline management and school meals; and to an extent they influenced school progression and completion rate. For example the finding on existence of guidance and counselling and use of the services by the students explains their appreciation. This finding concurs that of Kabura (2010) done in public secondary schools in Kenya that shows majority of the students knew, appreciated and had positive perception towards guidance and counselling services in their schools. The positive attitude implies to an extent the strategy could have addressed issues that may have facilitated their stay in school. A study by Murumbakiveu et al. (2017) recommends for introduction of guidance and counselling services in public day secondary schools as a way of addressing dropout and repetition. However, the finding on lack of documents for guidance and counselling in some of the schools is an indication that to an extent the strategy was not properly carried out. This consequently implies that the students' issues may not have been well addressed to enable them stay in school.

Enhancing students' discipline as a way of improving schooling was applicable in most of the schools. This was exemplified by school principals' and class teachers' high response rate. The students' responses seemed to confirm this to some extent because some of the indiscipline students had either dropped out of school or were sent away by the school administration. The internal inefficiency in most of these schools possibly could have been due to indiscipline students who had either dropped out of school or transferred. The way discipline issues are handled by schools can either reinforce or hinder students' progression and eventually completion of school. According to American Institute for Research (2014) secondary schools suspend or expel two million students yearly for non-violent offenses. However, the challenge mainly lies on the positive approaches to school discipline to avoid causing internal inefficiency. According to Republic of Kenya (2015) the ban on corporal punishment in schools poses a challenge in handling students' disciplinary issues. This calls for other strategies like guidance and counselling to be reinforced in the schools to address issues of indiscipline.

The diversification of students' diet was another

strategy for improving students' schooling, which is critical at this stage of a person's development. Although the schools provided lunch to the students it lacked variety from the findings. However, the students appreciated the meals. The meals possibly motivated the few students who relied on it to progress with schooling. A study in Tanzania by Sanya (2015) shows that school feeding programmes are effective means of attracting students to attend school. According to Republic of Kenya (2015), good health and nutrition stabilize school attendance of disadvantaged children. Therefore, the provision of good and enough food to an extent reinforces school attendance and consequently progression and completion rate of needy students. Given that the constituency funded day schools were mainly constituted of needy students from slum set ups, there was need to improve on the meals provided to them.

The perceived average agree response rate for application of school progression and completion strategies from schools principals and the class teachers was 83.8 % and 74.8% respectively. This possibly implies that schools had put in place plans to ensure enrolled students progressed and completed their secondary school education. However, the high agree response rate on application of these strategies did not translate into equally high percentage of internal efficiency exemplified at 51% on Table 2 and discussed earlier. This implies that to some extent positive interaction between enrolled students and some of the schools' strategies for realization of high internal efficiency was lacking. For instance strategies such as organised school internal bursary kitty, keeping students with unpaid fees in school and providing safe and secure school environment for students appeared to have minimal influence on students' progression and completion rate. However, from the findings strategies that interacted positively with students' characteristics appeared to ensure students stayed in school upto completion of Form Four. For example, organised payment of school fees in installments and provision of co-curricula activities.

### **Suggested strategies for improving internal efficiency in day secondary schools**

The high agree response by both school principals and class teachers on suggested ways of improving students' progression and completion rate such as intensified campaign by stakeholders on importance of secondary schooling, diversifying financial resources and improving recreational facilities seemed to agree with the recommendations made by the Republic of Kenya (2015). This report recommend for improvement of school's recreational services (co-curricular) and facilities, intensified campaign on importance of schooling

by all stakeholders and diversification of capital base by the schools. There is need therefore to have these strategies improved. The discussions with students also yielded information on the need to improve and build some of the schools' infrastructures. This included building of toilets in schools that used pit latrines and providing running water for flushing and cleaning the toilets. The schools' play fields also needed proper care to get rid of pot holes and dumped waste. In addition, there was need for dining facilities for convenience during meals time.

The strategy of targeted full bursary or scholarship for needy students up to form four or completion of school was in full support (100 %) by both school principals and class teachers. The students' recommendation for increased bursaries and timely release of it was further an indication of the need for financial support by needy students. This finding concurs with Nthiga (2014) on the need for full financial support to social economically disadvantaged children. Another study by Muli (2014) recommends full funding of secondary school education instead of subsidizing as a way of improving completion rate. If such a strategy is implemented the need for bursaries and scholarships will no longer be necessary.

The provision of safe and secure school environment appeared not sufficient in most of the schools. This was exemplified through loss of students' books, hawkers' fights extending into some school's compound and insecure paths to schools, sentiments raised by students. These issues coupled with lack of enough security guards and perimeter walls required improvement to assure students of their safety. In addition, to improve on security there was need to have hawkers selling near schools' compound moved a concern raised by some school principals. The improvement of these safety issues will go along to improving students' stay in those schools and hence improving internal efficiency. The recommendation is in line with NCC (2014) report that indicates the need to improve security of constituency funded day secondary schools in order to secure schools' properties and provide a safe learning environment for students.

The strategy of converting these day schools into boarding schools was likely to deny the poor students an opportunity for schooling due to cost implications. The way forward is to improve on the facilities and make environment favourable for students. The NCC (2014) report also objected the conversation of day schools into boarding because of cost implication to many parents in the slum set ups. However, a study by Muli (2014) recommends for converting day schools to boarding secondary schools in order to improve completion rate. This may not be viable because of cost an issue that is already a burden to many parents. If most of the suggested strategies are implemented, the retention and progression of students in these schools would be realized due to lowered cases of drop outs and transfers.

This consequently would result into increased completion rate at the exit point.

## CONCLUSION

The school strategies are perceived to work according to the school principals, class teachers and students; however, from the study this does not translate to the expected high level of internal efficiency. The coefficient of efficiency of 51% is an indication of low internal efficiency from the expected 100%. This was caused by high number of transfers and dropouts that persisted across all the schools. In order to improve the internal efficiency of public day secondary schools, all the needy students should be fully supported financially through bursary schemes. The constituencies should also ensure timely disbursement of bursaries to schools because this study established high progression and completion rate in schools where students received financial support.

The government, the community and the schools should ensure schools are safe by providing security and infrastructural support. This study noted unsafe and insecure learning environment affected student progression and completion rates negatively. The schools' infrastructure such as toilets, recreational facilities such the play fields and dining halls also required to be increased and improved to cater for the students' needs. The recreational activities appeared to improve students' school attendance and consequently likely to lead to higher completion rate.

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