

Quality Education in Kenya: Perspectives for the Transition of Students from Secondary Schools to Universities

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Abstract

Sustainable Development Goal Four (SDG 4) on education ensures inclusive and equitable quality education opportunities for all. United Nations (UN) member states had to adopt the SDGs protocol. Kenya, like any other country in Sub-Sahara Africa, domesticated the SDG. Consequently, this study investigated factors influencing students' transition from day and boarding schools to University in Mutomo Sub-county, Kenya. The study was based on the system theory propounded by Scott (1987), who adopted a system perspective in analyzing organizations. The study adopted a descriptive survey research design. The target population for the study was 15 secondary schools, 15 Curriculum Support Officers (CSOs), 128 teachers, 15 principals, 15 chairmen of School Management Boards (CSMBs), and 925 Form four students. Random sampling was used to select 150 students and 45 teachers. Census sample of 15 Principals, Five CSOs. The total sample size was 230. This corresponded to a confidence interval of .05 and a confidence level of 95%, corresponding to a z-score of 1.96 and a standard deviation (*SD*) of .5. The study findings revealed that resources and institutionalization play a key role in the influence of transition rates of students. Also, the study concluded that the categorization of schools threatens the transition rates. The study suggested adequate capitation to schools be provided by the government regular in-service courses for teachers be held. The study also suggested staffing schools with adequate teachers. The study further recommended that stakeholders be sensitized to providing adequate infrastructure and instructional materials.

Keywords: inefficiency, learning resources, physical infrastructure, transition

Introduction

The Kenya certificate of secondary education examination determines the transition to the university education level. Various scholars note that the Kenyan education system is exam-oriented (Mackatiani, 2012; Mackatiani, 2016; Mackatiani, 2017a; Mackatiani et al., 2016; Mackatiani et al., 2017; Mackatiani et al., 2022; United Nations Children's Fund [UNICEF], 2009). Besides, Mackatiani et al. (2016) noted that the Kenyan education system limits students' chances of transitioning to universities. Also, they note that school type influences the education selection process. Further, UNICEF (2010) argued that the transition from secondary to university occurs mainly on a meritocratic basis. Therefore, school type in Kenya influences students to select and secure schools for school leaving examination results. This, in turn, increases their chances of being admitted to Universities.

According to Mel and Margarida (2006), learning and teaching materials are critical ingredients in learning and a curriculum cannot be easily implemented without them. Various studies have acknowledged that textbooks and instrumental materials are fundamental and essential because they are primary tools that schools use to provide students with the knowledge and skills were expected to learn (Imbova et al., 2018; Mackatiani, 2022a; Mackatiani & Likoko, 2021; Mackatiani et al., 2017; Mackatiani et al., 2018; Mackatiani et al., 2020; Mackatiani et al., 2021; Mackatiani et al., 2022; USAID, 2002). Hence they contributed to

students' academic achievement which determined the transition rate of students from secondary school to university. Students' dropout phenomenon was prevalent in schools with ill-developed infrastructures. Students subsequently experienced multiple problems with adolescence and peer influence (Eisenmon, 1997; Mackatiani, 2020; Mackatiani et al., 2022). Upon completing secondary school education, students chose to go to colleges to pursue vocational courses (Mackatiani, 2022b; Mackatiani & Ejore, 2023). The secondary school education program is geared towards meeting the needs of both the students who terminate their education after secondary school and those who proceed to higher education.

According to Mackatiani (2017a), the Kenyan education system was examination results-oriented. Thus, it limited students' chances of transition to universities, and learners were made to understand that success only came when one competitively passed national examinations. This has been evidenced in the current Kenyan education system. In light of this, Mackatiani et al. (2016) noted that the education system was designed for transitional determination after national examinations had been done at the end of each level of education.

Various studies (Mackatiani, 2017a; Mackatiani et al., 2018; Mackatiani et al., 2022; Verspoor, 2005) revealed that Kenyan schools drilled students to pass examinations as that was the only criteria for selection into jobs, further courses of studies, or vocational training. Those who fail to post impressive results are

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condemned as failures. The trends had for a long time hindered students with good capacity from transiting to university education. This resulted from failing to acquire the required pass mark in the national examination. It also pressured parents to ensure their children pass the national examination for entry into university education. Subsequently, it contributed to examination malpractices.

Review of the Related Literature

School Internal Efficiency

The internal efficiency of an education system was defined as the ability to turn out its graduates at any level in the most efficient way without wastage, stagnation, or repetition (Psacharapoulous & Woodhall, 2006). Internal efficiency could also be measured by class size and student ratio which provided a picture of learning and teaching and learning resources. Pradhan (1981) stated that efficiency is regarded as both the end and the process. Efficiency in education is associated with learners' cognitive achievement which is usually measured through examination results. In this connection, it was based on a closed system model of analysis which dealt with matching inputs (e.g., availability scores) in education. However, since efficiency implies maximizing resources, it is crucial to use allocated resources effectively. In a service sector, like education, the process forms part of inputs. According to Mackatiani, 2012 and Mackatiani *et al.*, 2022, schools have created rules and procedures that have become a culture of a particular institution. In terms of school administration, the institutionalization of education can be seen (Mackatiani, 2012; Mackatiani *et al.*, 2022).

The expectations of administrators influenced school models. The school organization is structured around dimensions of school models was crucial. The school's reputation affects authority, control, and policy distribution. The perception of a specific school is crucial to managing the school. Guidelines for school policy guarantee inclusion in education. Learners may access course material, engage in learning activities, and complete assessments. The diversity of the environment should also be a focus of inclusive policies and the quality of education for all students. Schools that support diversity have policies encouraging equal student participation opportunities in school activities. However, school policies pose obstacles to children from disadvantaged families. It, therefore, promotes inefficiency in schools.

Teaching & Learning Resources

According to Onyango (2001), planning for materials resources involves identifying the resources for determining the requirement of unit cost and the use of the materials by individuals. The management of materials resources, therefore, entailed planning, acquisition allocation, and distribution. In light of this, control and maintenance of the materials were essential. Furthermore, the availability and use of teaching and learning materials affect the effectiveness of teachers' lessons. Avalos (1991) revealed that the quality of education the learners received bore direct relevance to the availability of resources. Also, physical space which supported learning programs and pedagogies was paramount.

According to Ministry of Education (MoE; 2008), a school's performance level was mainly determined by the availability of teaching and learning resources. This is in concurrence with (Mackatiani, 2017b; Mackatiani *et al.*, 2017; Mackatiani *et al.*, 2020; Obonyo, 1987), who noted that instructional materials such as textbooks and visual, audio materials not only enhanced communication between the teacher and the learner but also facilitated child-centered learning through discovery. Therefore, the low transition of students from secondary to university can be attributed to inequity in the distribution of learning resources.

Physical Infrastructure

MoE (2008) asserts that the transition of students from secondary to university level is of great importance since higher education institution plays a crucial role in building capacities for

the generation, adoption, processing, dissemination, and utilization of knowledge and skills. According to the secondary education strategy report (2007-2010), a school's performance level is mostly determined by the availability of Physical infrastructure resources; hence, low transition rates of students from secondary to university can be attributed to inequity in the distribution of learning resources.

Various studies (Mackatiani *et al.*, 2017; Mackatiani *et al.*, 2018; Mackatiani *et al.*, 2020; Mackatiani & Mackatiani, 2020); MOE 2008) reveal that resources can improve transition rates from secondary to university because they are tools that enhance literacy, mathematics, and science without teaching and learning resources the learning process becomes rigid as learners heavily relied on rote learning which places learner on a passive role. In this case, national secondary schools are fully maintained by the government. Extra county schools are partly government-maintained. While county secondary schools are maintained through community initiatives and funding by the government is minimal. As a result, there are differences in the transition from the three categories of schools from secondary to university level. However, school attendance is mainly determined by the school category.

Theoretical Framework

The study was based on system theory propounded by Scott (1987), who adopted a system perspective in analyzing organization. The features of the theory are based on the inter-relationship between internal components and the structure of management inputs and output. The theory is relevant to this study because schools, like other organizations, may be viewed as a goal-directed system through the interaction of people and resources available within a given context.

Statement of the Problem

Kenya has an examination-oriented system of education. Besides, secondary schools have been classified as national, extra-county, and county. The categorization has led to inequities in resource distribution to schools to promote transition to the university level of education. Most secondary schools in the Mutomo sub-county are categorized as counties. Day secondary schools are more common than boarding schools, though they have lower transition rates to the university. It appears that secondary schools have inefficiencies. This study, therefore, investigated the influence of teaching/learning resources, physical infrastructure, and internal efficiency on the promotion of transition rates to secondary schools.

Significance of the Study

The significance of this study is anticipated. Study findings might be useful in Kenya and Sub-Saharan Africa. Policymakers might develop educational policies. Policy implementers might successfully implement high-quality education. The education stakeholders would also comprehend and value the resources essential for implementing outstanding education. Policy implementers would also minimize institutionalizations that would affect transition rates. The study is important for comparative and global education since it offers quantitative and qualitative data on inclusive and high-quality education.

Objectives

1. To assess how much physical infrastructure influences the transition rate to universities of day and boarding secondary school students.
2. To determine the extent to which the provision of teaching/learning resources (instructional materials) influences the transition rate to universities of day and boarding secondary school students.
3. To determine how internal efficiency influences the transition rate to universities of day and boarding secondary school students.

Methodology

A descriptive survey research design was adopted for the study. Data on factors influencing the transition rate to universities from boarding and day secondary schools was collected and analyzed through a descriptive approach. The data was collected through questionnaires which were issued to the respondents. It constituted Primary data for this study. The data analysis involved coding and categorization according to patterns and emerging themes related to the purpose of the study and research hypothesis. The analysis involved gleaning meaning from the qualitative data based on questionnaires. The respondents included Principals, Curriculum Support Officers (CSOs), Chairmen of School Management Boards (CSMBs), teachers, and students in boarding and day secondary schools. The study's target population was 15 secondary schools, 15 principals, 15 CSOs, 128 teachers, 15 CSMBs, and 925 Form four students. Random sampling was used to select 150 students and 45 teachers. Census sample of 15 Principals, 5 CSOs, and 15 CSMBs. The total sample size was 230.

This corresponded to a confidence interval of .05 and a confidence level of 95%, corresponding to a z-score of 1.96 and an *SD* of .5.

Results and Discussion

The study investigated the state of the physical facilities, instructional materials, and efficiency in day and boarding secondary schools. Principals, CSOs, students, and teachers gave information about such matters. The study findings were further compared with other studies conducted in the literature review to ascertain concurrence. Finally, a comparison with existing literature was made to increase the research study's integrity and importance.

The first objective sought to assess how much physical infrastructure influences the transition rate to universities. The study, therefore, sought views from the Principals, CSMBs, and CSOs relating to the availability of physical infrastructure. Their perceptions are captured in Table 1.

Table 1
Perceptions of Principals, CSMBs, and CSOs on the Adequacy of Infrastructure

Perceptions	Day secondary schools						Boarding secondary schools					
	Principals		CSMBs		CSOs		Principals		CSMBs		CSOs	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Adequate	2	20	2	20	0	0	4	80	4	80	5	100
Inadequate	8	80	8	80	5	100	1	20	1	20	0	0
Total	10	100	36	100	5	100	5	100	5	100	5	100

Note. Data collected by the author in 2022.

Table 1 indicated that 20 percent of principals and 20 percent of CSMBs in day secondary schools indicated that the schools had adequate infrastructure for promoting students' transition rates. However, none of the CSOs indicated that day secondary schools had adequate infrastructure. Also, data from Table 1 revealed that 80 percent of principals and 80 percent of CSMBs in boarding secondary schools indicated that the schools had the adequate infrastructure for promoting students' transition rates. However, 100 CSOs indicated that boarding secondary schools have adequate infrastructure.

Further findings from data in Table 1 indicated that 80 percent of principals and 80 percent of CSMBs in day secondary schools indicated that the schools had inadequate infrastructure for promoting students' transition rates. However, 100% of the CSOs indicated that day secondary schools had inadequate infrastructure. Also, data from Table 1 revealed that 20 percent of principals and 20 percent of CSMBs in boarding secondary schools indicated that the schools had the inadequate infrastructure for promoting students' transition rates. However, none of the CSOs indicated that boarding secondary schools had adequate infrastructure.

Most respondents noted that the Physical infrastructure in day secondary schools was inadequate, while the infrastructure in boarding secondary schools was adequate. The findings concurred

with Mackatiani et al. (2017), Mackatiani et al. (2018), Mackatiani and Mackatiani (2020), Mackatiani et al. (2020), and MOE (2008), who revealed that resources contribute to improving transition rates from secondary to university. This was due to the availability of tools that enhance literacy, mathematics, and science. Without teaching and learning infrastructure, the learning process becomes rigid. Learners would, therefore, heavily rely on rote learning which placed learners in a passive role. Subsequently, students from national secondary schools fully maintained by the government had high transition rates. Extra county schools that were partly government-maintained had lower rates. While county secondary schools are maintained through community initiatives and funding by the government had minimal rates. There are differences in the transition from the three categories of schools from secondary to university level. This negatively impacted students' transition into day secondary schools due to inadequate physical infrastructure and equipment.

The second objective sought to determine the extent to which the provision of teaching/learning resources (instructional materials) influences the transition rate to universities of students in day and boarding secondary schools. The study, therefore, sought views from the Principals, teachers, and students relating to the availability of instructional materials. Their perceptions are captured in Table 2.

Table 2
Perceptions of the Adequacy of Instructional Materials

Likert scale rating (Score)	Day secondary schools						Boarding secondary schools					
	Principals		Teachers		Students		Principals		Teachers		Students	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Very high(5)	0	0	0	0	0	0	2	40	0	0	10	20
High(4)	0	0	0	0	0	0	3	60	15	100	40	80
Moderate(3)	3	30	10	33.3	10	10	0	0	0	0	0	0
Low(2)	7	70	20	66.7	90	90	0	0	0	0	0	0
Very low(1)	0	0	0	0	0	0	0	0	0	0	0	0
Total	10	100	30	100	100	100	5	100	15	100	50	100

Note. Data collected by the author in 2022.

Table 2, Shown 30 percent of principals in day secondary schools indicated that the level of instructional materials was moderate. At the same time, 70 percent of the principals in day secondary schools noted that the level of instructional materials was low. Besides, 33.3 percent of teachers in day secondary schools indicated that the level of instructional materials was moderate. In contrast, 66.7 percent of the teachers in day secondary schools noted that the level of instructional materials was low. Also, 10 percent of students in day secondary schools indicated that the level of instructional materials was moderate. In comparison, 90 percent of the students in day secondary schools noted that the level of instructional materials was low. None of the respondents indicated that the adequacy level was very high, high, or low.

Further findings from data in Table 2 indicated that 40 percent of principals in boarding secondary schools reported that the level of instructional materials was very high. At the same time, 60 percent of the principals in boarding secondary schools noted that the level of instructional materials was high. Besides, one hundred percent of teachers in boarding secondary schools indicated high instructional materials levels. Also, 20 percent of students in boarding secondary schools indicated that the level of instructional materials was moderate. While 80 percent of the students in boarding secondary schools noted that the level of instructional materials was high. None of the respondents indicated that the level of adequacy was either very moderate, low, or very low.

Most respondents noted that the adequacy of instructional materials was low in day secondary schools as opposed to

boarding secondary and high schools. The findings concurred with Avalos (1991), Mackatiani (2017b), Mackatiani et al. (2017), Mackatiani et al. (2020), MoE (2008), Obonyo (1987), and Onyango (2001) who noted that instructional materials such as textbooks, and visual, audio materials not only enhanced communication between the teacher and the learner but also facilitated child-centered learning through discovery.

However, managing materials resources entailed planning, acquisition allocation, distribution, and maintenance. Furthermore, the availability and use of teaching and learning materials affect the effectiveness of teachers' lessons. Therefore, the quality of education the learners received bore direct relevance to the availability of resources. This implied that instructional materials are crucial for the transition from one educational level to another and are not being effectively implemented due to the inadequacy of instructional materials. Therefore, the low transition of students from day secondary schools to university can be attributed to inequity in the distribution of learning resources. Therefore, the availability of teaching and learning resources mostly determined the performance level of schools.

The third study objective sought to determine how internal efficiency influences the transition rate to universities in the day and boarding secondary schools. To establish the extent, the study sought views from Principals, teachers, and CSOs their views were captured in Table 3.

Table 3
Perceptions on the Extent to Which Internal Efficiency Influences Transition Rate

Likert scale rating (Score)	Day secondary schools						Boarding secondary schools					
	Principals		Teachers		CSOs		Principals		Teachers		CSOs	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Very high(5)	3	30	0	0	5	100	5	100	15	100	5	100
High(4)	7	70	20	66.7	0	0	0	0	0	0	0	0
Moderate(3)	0	0	10	33.3	0	0	0	0	0	0	0	0
Low(2)	0	0	0	0	0	0	0	0	0	0	0	0
Very low(1)	0	0	0	0	0	0	0	0	0	0	0	0
Total	10	100	30	100	100	100	5	100	15	100	5	100

Note. Data collected by the author in 2022.

Concerning data in Table 3, 30 percent of principals in day secondary schools indicated that internal efficiency highly influences the transition rate. While 70 percent of the principals in day secondary schools noted that internal efficiency highly influences the transition rate. Besides, 33.3 percent of teachers in day Secondary schools indicated that internal efficiency moderately influences the transition rate. While 66.7 percent of the teachers in day secondary schools indicated that internal efficiency highly influences the transition rate. Also, 100 percent of CSOs indicated that internal efficiency highly influences day secondary schools' transition rate. None of the respondents indicated that the level of influence of internal efficiency was either low or very low.

Further data in Table 3 revealed that 100 percent of principals in boarding secondary schools indicated that internal efficiency highly influences the transition rate. Besides, one hundred percent of teachers in boarding secondary schools indicated that internal efficiency highly influences the transition rate. Also, 100 percent of CSOs indicated that internal efficiency highly influences the transition rate in boarding secondary schools. None of the respondents indicated that the level of influence of internal efficiency was either high, moderate, low, or very low.

All respondents noted that internal efficiency influenced the transition rate in both day and boarding secondary schools. The findings concurred with Mackatiani (2012), Mackatiani et al. (2022), Psacharapoulos and Woodhall (2006), and Pradhan (1981) stated that efficiency in education is associated with learners' cognitive achievement which is usually measured through examination results. It was based on a closed system model of analysis which dealt with matching inputs. Efficiency implies maximizing resources. It is crucial for allocated resources

to be used effectively. In a service sector, like education, the process forms part of inputs. Schools have created rules and procedures that have become a culture of a particular institution; the school's reputation affected authority, control, and policy distribution. The perception of a specific school is crucial to managing the school. Guidelines for school policy guarantee inclusion in education. Every learner accessed course material, engaged in learning activities, and completed assessments. The diversity of the environment focused on inclusive policies and the quality of education for all students. Schools that supported diversity had policies that encouraged equal participation opportunities for students in school activities. National and extra-county schools appeared to have well-established school rules that promoted. Transition rate as opposed to county schools. Therefore, internal efficiency was higher in boarding schools than in day schools.

Major Findings

Internal efficiency influenced the transition rate in both day and boarding secondary schools. However, the influence of internal efficiency was higher in boarding schools than in day secondary schools.

Physical infrastructure in day secondary schools was inadequate as opposed to the adequacy of infrastructure in boarding secondary schools. This implied that the availability of physical facilities impacted transition rates in both day and boarding secondary schools.

The adequacy of instructional materials was high in boarding secondary schools as opposed to day secondary schools, which were low. This implies that transition rates of students in boarding schools will be higher than those in day secondary schools.

Conclusion

The study concluded that physical infrastructure, instructional materials, and internal efficiency contribute to high transition rates of students from secondary school to university education. It was also concluded that the categorization of schools leads to unequal distribution of resources to schools. Therefore, it has promoted transition rates of students in boarding secondary schools instead of their counterparts in day secondary schools. Additionally, boarding institutions enroll kids with greater entrance behaviors than their peers in day secondary schools. Also, respective schools, both day and boarding secondary schools, have policies that have influenced the transition rates of students to the University level. Capitation, on the other hand, has contributed to transition rates. It was also concluded that schools that receive adequate government funding have high transition rates.

Recommendations

1. Sensitization of the stakeholders on community participation in providing school infrastructure and instructional materials be enhanced.
2. The Kenyan government should implement a plan to increase school funding.
3. Internal efficiency should be addressed to improve the transition rate in both day and boarding secondary schools.

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