

Influence of Institutional Infrastructure on Hundred per cent Transition in Junior Secondary Schools in Mumias East Sub County

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Abstract

The Kenyan government's introduction of the hundred percent transition policy sought to guarantee all students' progression from primary to junior secondary school. However, infrastructural constraints have posed significant challenges to the policy's effective implementation. This study examined how institutional infrastructure influences the hundred percent transition in junior secondary schools in Mumias East Sub County. Using a mixed-methods design, data were collected through questionnaires and observation from a sample of 683 respondents, including headteachers, teachers, and students. Descriptive and inferential statistical analyses were conducted using SPSS. Findings revealed that inadequate classrooms, poor sanitation facilities, limited laboratories, and insufficient libraries significantly hamper smooth transitions. Schools with well-developed infrastructure experienced fewer disruptions, lower dropout rates, and enhanced learning experiences. The study concludes that institutional infrastructure is a critical determinant of successful policy implementation. It recommends prioritized investment in educational facilities to support the continued rollout of the competency-based curriculum in Kenya.

Keywords: *Institutional infrastructure; hundred percent transition; junior secondary schools;*

1. Introduction

Institutional infrastructure forms the backbone of an effective education system. Adequate classrooms, laboratories, libraries, and sanitation facilities provide a conducive learning environment that promotes student engagement and academic success. In the context of Kenya's Competency-Based Curriculum (CBC), infrastructure is a critical input in realizing the government's commitment to universal access and quality education.

The Ministry of Education implemented the hundred percent transition policy in 2018, ensuring that every learner from primary school proceeds to junior secondary school. While this policy aimed at increasing equity in access to education, the preparedness of institutions, particularly in terms of infrastructure, has raised concern. Schools in rural and underserved regions such as Mumias East Sub County have been overwhelmed by increased enrolment, leading to congestion and diminished learning quality (UNESCO, 2016; MOEST, 2014).

This study examines how institutional infrastructure supports or hinders the implementation of the hundred percent transition policy in Mumias East. It focuses on the adequacy, quality, and availability of physical resources, exploring how these variables affect students' access, retention, and performance under the CBC framework. The insights generated will inform

resource allocation, policy improvement, and school management strategies.

2. Literature Review

Institutional infrastructure is a key determinant of educational quality and access. According to Fillardo and Jeffrey (2017), poor physical facilities such as inadequate classrooms, laboratories, and libraries hinder effective curriculum delivery. UNESCO (2016) asserts that oversized classes reduce student-teacher interaction, limit instructional effectiveness, and contribute to lower learning outcomes. In Kenya, the Ministry of Education recommends standard classroom sizes and safety compliance measures that remain unmet in many schools (MOEST, 2014).

Muendo (2016) emphasizes the importance of learner-centered environments that stimulate curiosity, offer feedback opportunities, and promote autonomy. Spacious libraries and laboratories provide learners with access to knowledge and enhance their understanding through self-directed learning. When infrastructure is lacking, these benefits are compromised, and learners struggle with distraction, discomfort, and disengagement.

Research by Wambua (2011) in Kisumu revealed that infrastructural quality has a direct impact on access and learning. Adequate teaching spaces, science labs, and libraries contribute to quality secondary education by facilitating the delivery of diverse content and supporting practical learning. Similar observations were made by Othoo et al. (2019) in Kuria, where increased enrolment due to the transition policy strained already limited resources, thereby affecting academic performance.

Globally, infrastructure investment has been identified as a cornerstone of curriculum reforms. In South Africa and Rwanda, targeted improvements in physical learning spaces have been linked to the success of competency-based curricula (Mulenga & Kabombwe, 2019). Without such investment, reforms risk stagnation. The Kenyan context mirrors these trends, with resource disparities widening learning inequalities.

The Resource-Based Theory (Barney, 1991) underpins this study, arguing that institutions with superior resources achieve better outcomes. In the educational context, adequate infrastructure enhances the teaching and learning experience and supports the goals of universal access and equity. This theoretical lens helps explain how schools' infrastructural capacity determines the success or failure of the hundred percent transition policy.

3. Methodology

This study employed a mixed-method research design combining both qualitative and quantitative approaches. The design allowed for triangulation of findings and enhanced the validity and depth of interpretation. The research was conducted in Mumias East Sub County in Kakamega County, Kenya, where infrastructural inadequacies had been reported following the implementation of the hundred percent transition policy.

The study population included 95 headteachers, 475 teachers, and 14,250 students. A sample size of 683 respondents was determined using Yamane's formula, consisting of 77 headteachers, 217 teachers, and 389 students. Stratified random sampling was used to ensure representation across school types and participant categories. Data was collected through structured questionnaires and observation checklists focused on assessing the adequacy, quality, and availability of classrooms, laboratories, and sanitation facilities.

Validity of the instruments was confirmed using the Kaiser-Meyer-Olkin (KMO) and Bartlett's

Test of Sphericity. Reliability was tested using Cronbach's Alpha, with the infrastructure construct yielding a high reliability score of 0.835. Data were analyzed using SPSS, applying descriptive statistics (mean, frequency, standard deviation) and inferential techniques including Pearson correlation and regression analysis.

4. Results and Discussion

Findings indicated that a majority of the schools lacked the minimum required infrastructure to effectively support the hundred percent transition. Only 34% of schools had adequate classroom space to accommodate the increased student numbers. Approximately 61% of respondents reported inadequate or absent science laboratories, while 58% noted deficiencies in libraries and resource centers. Sanitation was a key concern, with pit latrines shared by over 70 students in nearly half of the schools observed.

Quantitative analysis showed a strong positive correlation between institutional infrastructure and the success of transition implementation ($r = 0.689$, $p < 0.01$). Regression analysis revealed that infrastructure accounted for 47% of the variance in transition outcomes ($R^2 = 0.47$). Schools with better facilities had higher student retention and better engagement in CBC activities. These findings align with earlier research by Lyons (2012) and Fillardo and Jeffrey (2017), who demonstrated that adequate physical resources positively impact learning outcomes.

Qualitative responses from teachers emphasized that overcrowded classrooms limited differentiated instruction and caused fatigue. Some learners were forced to sit on floors or attend classes outdoors. Students expressed frustration over the lack of science equipment, which hindered their ability to complete practical work. These sentiments reflect the systemic strain placed on schools without corresponding infrastructure upgrades.

5. Conclusion

The study concludes that institutional infrastructure plays a pivotal role in the successful implementation of the hundred percent transition policy. Schools in Mumias East Sub County face serious infrastructural challenges that compromise the goals of universal access, equity, and quality education. Without adequate classrooms, laboratories, libraries, and sanitation, the transition policy cannot deliver its intended outcomes. Effective implementation requires not only policy directives but also material investments that create an enabling learning environment.

6. Recommendations

Based on the findings, the following recommendations are made:

1. The Ministry of Education should allocate targeted infrastructure grants to schools with high enrolment but poor facilities.
2. Public-private partnerships should be explored to support the construction and renovation of libraries, laboratories, and classrooms.
3. County governments should conduct regular audits of physical resources to identify infrastructure gaps.
4. Temporary but safe learning structures such as prefabricated classrooms should be used to ease congestion in the short term.

7. References

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