Original Research Article

Sustainable Quality Education and Training in Higher Education: Analyzing Antecedents of Sustainable Quality Education in Module II Degree Programme in Kenya

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Abstract

Outcome target 3 of Sustainable Development Goal 4 focuses on reducing barriers to skills development, Technical and Vocational Education, and Training starting from secondary level, tertiary, and university education. It also focuses on providing lifelong learning opportunities for youth and adults. Universities in Kenya have been at the forefront of improving access to higher education for all. One programme through which Universities have actualized their desire for accessible education is Module II, popularly known as the parallel programme. Through this programme many individuals who achieved the minimum requirement for university admission have had an opportunity to access higher education even though they had hitherto not been considered. However, the quality of education offered under this module has remained a matter of concern. Therefore, the purpose of this study was to analyze probable antecedents of sustainable quality education in the Module II programme. The study adopted the quasi-experimental research design anchored in the positivist research paradigm. The study targeted lecturers drawn from public universities and campuses located in Uasin Gishu County. Questionnaires were used to collect data from a sample of 258 lecturers handling diverse disciplines and who were randomly selected. Multiple regression analysis was used to analyze data. The study revealed that admissions policy, quality culture, curriculum development, and teaching evaluation were significant antecedents to sustainable quality education in Module II. The originality in the study is that Module II can and does support the realization of SDG4 outcome target 3 concerning access to university education. Educational stakeholders should rethink implementing this module alongside these critical antecedents to empower individuals.
Keywords: Sustainable development, Antecedents, Quality culture, Curriculum development.

INTRODUCTION

The desire for a better and sustainable future for all has led to a paradigm shift from the Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs). According to the United Nations (UN, 2015b), SDGs ratified by all United Nations member states provide the blueprint upon which the 2030 Agenda for sustainable development is leveraged. Education is therefore seen as a critical component in realizing sustainable development. The UN member states, through Goal 4, recognized the fact that obtaining a quality education is the foundation to improving people's lives and sustainable development (UN, 2015b).

It is argued that access to quality and inclusive education can improve the quality of life and act as a reservoir to innovative solutions to emerging issues (UN, 2015b). Sustainable quality education for sustainable development is a concept that the Kenyan Government has fully adopted. At the Seventh Cabinet meeting in 2016, Kenya passed a directive to mainstream the SDGs in policy, planning, budgeting, and programming (UNESCO, 2017). As a result, Kenya launched the Education for Sustainable Development (ESD) policy for the Educational Sector on March 21st, 2017, to catalyze the achievement of the 17 SDGs in the country through education in line with the African Union Agenda 2063 (UNESCO, 2017). The policy is seen as an essential milestone for the country and is hinged upon the competency-based curriculum that can

assure quality while emphasizing science, technology, engineering, and mathematics.

Universities in Kenya have been at the forefront of improving access to education for all. It is noted that the demand for higher education among the public has seen a considerable expansion in higher education in Kenya (Yego, 2016). This expansion represents a push in the right direction where most Kenyans can access education in line with SDG 4. Indeed the free primary and free secondary education programmes have precipitated an increase in student enrolments requiring that some middle-level colleges be elevated into Universities (Otieno, 2010). Perhaps the most radical intervention undertaken by Universities in Kenya is the introduction of Module II programme, popularly known as the Parallel programme. Module II was mooted as an alternative avenue through which individuals, particularly mature students able to fund their studies, could access university education (Ngari & Wanjama, 2013). Consequently, the Module II programme has accorded opportunities to many individuals who, although having qualified for university admission, could not get a chance in mainstream admission (Yego, 2013).

Despite the capability of the parallel degree programme of availing higher education opportunities to all, questions are emerging asking the quality of education on offer under this module (Nyabuti, 2018, The Conversation, 2016; Yego, 2013; Yego, 2016). According to the conversation (2016), the parallel degree programme has occasioned the proliferation of satellite campuses of low-quality and devoid of basic facilities, raising concerns about the degree's credibility. Nyabuti (2018) argues that the admission criteria into the parallel degree programme are perceived as not being rigorous enough. Self-sponsored students are given preferential treatment, which compromises standards.

Yego (2016) points out that the adoption of the module II Programme has led to an exponential growth of universities, which she refers to as massification. With it have come challenges such as overcrowding, inadequate resources, crumbling infrastructure, and, more importantly, a decline in quality. Despite acknowledging benefits accruing from the module, such as providing opportunities for many people to advance their academic interests and stemming the trooping of Kenyans to foreign universities, Ngugi (2018) argues that the program is responsible for bringing scholarship in Kenyan universities to its knees.

In spite of the quality concerns raised concerning the module II program in public universities, Ngari and Wanjama (2013) point out that there is still a high demand for university education, and that by attracting as many as 40% of student enrollment, module II remains a critical avenue through which the human resource in Kenya can be developed. Moreover, the module provides a framework through which SDG 4 can be realized as it remains proximal to students, is affordable, and has flexible learning support services. Because of all these, this study posits that module II remains critical in providing opportunities to achieve sustainable quality education towards sustainable development. Therefore, the study interrogates antecedents to the sustenance of quality education in the module II programme offered at the universities.

Empirical Review and Hypotheses Formulation
Admission Policy and Quality of Training

Admissions policy has been associated with the quality of university education in the extant literature. Okoroma (2008) analyzed admissions policies and the quality of university education in Nigeria. The study was motivated by the pressure to cope with the high demand for university education that had led the Nigerian government to emphasize admission policies such as; catchment area, quota system, discriminatory fees, and backward factors. From the study, Okoroma (2008) found out that the quality of university education in Nigeria was a function of the admissions policy.

Gudo and Olel (2011) examined students' admission policies in Kenyan universities as a precursor to quality education. They were motivated by the fact that diversity in sources of the student population in university had posed challenges to policies governing student admission. They established, among other findings, that lack of regulating policies was responsible for instances such as faith-based institutions leaning more towards faith in admissions instead of qualification and public universities admitting students with higher grades than private universities. Given the critical role module II plays, we argue that putting proper and universal admissions policies in place is bound to eliminate skewed admissions of students into the programme and perhaps eliminate the issue of unqualified admissions. The study, therefore, postulates as follows:-

H_01: *Quality of University education offered under module II is independent of the admissions policy.*

Quality Culture and Quality University Education

Cultural-oriented resistance to change is noted to be a significant impediment to implementing quality practices. Based on this argument, Wu (2015) analyzed the effect of quality culture on the adoption of quality practices in manufacturing firms in China. Using an empirical assessment of quality culture, infrastructure practices, and core practices, Wu established that quality culture was an antecedent of quality performance. In the context of universities, Inga, Ilze, and Daira (2015) examined the role played by the institution's culture in quality management. They concluded that the university's organizational culture

determines the nature of quality management and, by extension, the level of development.

Bendermacher *et al*., (2017) conducted a realist review to unravel the quality culture in the higher education context. The review focused on elements in the organizational context that inhibit and promote the culture of quality and associated outcomes. They concluded that a contingency approach that utilizes quality management interventions tailored to individual and organizational contexts was critical to developing quality culture. Todorut (2013) assessed the need to employ total quality management in higher education. The motivation behind Todorut's study was to identify TQM principles and their usefulness to quality in academic institutions. The study established that TQM concepts could go a long way to revolutionize quality management in higher education. The present study then argues that establishing a quality culture could be the ideal way to ensure that the module II programme sustains the expected quality. Therefore, the study presupposes that:-

H₀2: Quality of university education offered under module II is independent of the quality culture.

Curriculum Development and Quality University Education

Curriculum design and development, features in literature as a critical aspect of quality learning outcomes. Pi-Yun Huang *et al*., (2011) used factor analysis and regression analysis approaches to show that the design of the curriculum has a positive correlation with learning environment, course content, instructional materials, and administrative service. According to Vergel *et al*., (2018), the curriculum design can stem the dropout rate depending on how it recognizes learner outcomes. Luciano (2014) established that curriculum design predicts learner achievement by influencing the acquisition of knowledge and skills. Tshiredo (2013), on the other hand, used a qualitative approach to show that curriculum change occasion challenges to resources, teacher preparation, and teaching effectiveness.

Mwebi (2015) focused primarily on university education when examining quality outcomes in the wake of curriculum design. Mwebi established that quality education standards at the university level could only be maintained if program developers take cognizance of course syllabuses that are explicit on depth and breadth of the course content and establish central examination boards that oversee adherence to set standards. This study questions whether curriculum design and development play any role in the quality of the module II programme. We postulate that:-

H₀3: The curriculum's design and development have no significant effect on the quality of education offered under module II.

Evaluation of Teaching and Quality University Education

The extant literature identifies teaching evaluation as an avenue for teacher effectiveness and quality outcomes. Hallinger, Heck, and Murphy (2014) analyzed the evidence on the effect of teacher evaluation on school improvement. They concluded that whereas policy frameworks emphasize teacher evaluation through reforms, there is minimal empirical evidence of teacher evaluation. Goos and Salomons (2017) pointed out that teaching quality in higher education is mainly measured through student evaluation of teaching. They, however, established that such evaluations are upward biased. Spooren, Mortelman and Denekens (2008) argued that although students' evaluation of teaching skills is essential, it remains largely controversial.

The controversy on evaluating teaching quality in higher education is also highlighted by Douglas J. and Douglas A. (2006). According to these authors, student feedback questionnaires have been employed to measure teaching quality. However, staff have had very little faith in student feedback and have remained divided by the mystery of using students. Kuzmanovic *et al.*, (2013) pointed out that although universities are increasingly using students' evaluations of teaching to measure teaching performance, these evaluations remain controversial in the sense that students differ in their valuation of various aspects of excellent teaching. If the evaluation of teaching at higher education level remains controversial, this study questions the impact evaluation of teaching has on quality university education offered in module II, and posits that:-

H₀4: Teaching evaluation has no significant effect on the quality of education offered under module II.

METHODOLOGY

The study adopted the quasi-experimental research design to test causal hypotheses (White & Sabarwal, 2014). A sample of 258 lecturers handling diverse disciplines in the module II programme was drawn from public universities located in Uasin Gishu County. Sampling was conducted through stratification across disciplines and a simple random sampling approach. Data were first analyzed to explore admission, quality culture, curriculum development, and teaching evaluation in the module II programme as currently practised. Subsequent multiple regression analysis was used to determine potential antecedents of implementation of the module II programme in Kenya.

RESULTS
Admissions Policy

Items measuring admission policy regarding the module II programme elicited disagreements among respondents. This disagreement indicated some laxity in the application of admissions policy when admitting students. For instance, the results in Table 1 show that

respondents disagreed that the diversity of international students is attracted to the programme. They also disagreed that universities draw students joining the programme from diverse ethnicities, that students

certificates are subjected to rigorous vetting and authentication, and that entry qualification into module II has been standardized across universities.

Table 1: Assessment of Existing Admissions Mechanisms

	strongly agree		agree		moderately agree		disagree		strongly disagree	
	n	%	n	%	n	%	n	%	n	%
Public universities have attracted a diversity of international students in the parallel programme	5	1.9	28	10.9	61	23.6	108	41.9	56	21.7
Students enrolling for parallel program are drawn from diverse ethnicities	2	0.8	12	4.7	46	17.8	123	47.7	75	29.1
Student enrolment into the parallel programme recognizes students preferred course	114	44.2	82	31.8	50	19.4	10	3.9	2	0.8
Gender is considered during enrolment into the parallel program	120	46.5	72	27.9	40	15.5	24	9.3	2	0.8
Students certificates are vetted in a rigorous way, and are duly authenticated	5	1.9	17	6.6	40	15.5	106	41.1	90	34.9
Students' entry qualification for the parallel program is standardized across public universities	3	1.2	14	5.4	34	13.2	100	38.8	107	41.5

Quality Culture

Results on the exploration of mechanisms for quality culture (Table 2) revealed that respondents agreed that public universities have a conducive and appropriate environment for facilitating the culture of quality. Despite this, responses towards prioritization of

strategic policy and planning for module II, providing quality teaching and learning, and assessing and evaluating administrative and academic processes against defined quality standards elicited disagreements among respondents.

Table 2: Mechanisms for Quality Culture

	strongly agree		agree		moderately agree		disagree		strongly disagree	
	n	%	n	%	n	%	n	%	n	%
Strategic policy and planning are prioritized in module II	6	2.3	30	11.6	72	27.9	89	34.5	61	23.6
The institutions environment is conducive and appropriate for quality culture	64	24.8	119	46.1	27	10.5	14	5.4	4	0.02
This module provides quality teaching and learning experiences	17	6.6	38	14.7	20	7.8	136	52.7	47	18.2
All administrative and academic processes of the module are assessed and evaluated against defined quality standards	22	8.5	27	10.5	29	11.2	127	49.2	53	20.5

Curriculum Development

Under curriculum development, response scores to items revealed the following (Table 3). Respondents agreed that the module II programme was designed for higher education to be accessible to all; however, they disagreed with several elements of its development and implementation. They, for instance,

disagreed that public universities have a firm, solid base of academic expertise to drive the programme. They also disagreed that there were adequate resources for the programme's success. They also disagreed that feedback from module II graduates shows that the program has been a success.

Table 3: Curriculum Development Practices

	strongly agree		agree		moderately agree		disagree		strongly disagree	
	n	%	n	%	n	%	n	%	n	%
The module II programme was designed to make education accessible to all	107	41.5	81	31.4	41	15.9	16	6.2	13	5.0
Public universities have a firm, solid base of academic expertise to support module II program	12	4.7	31	12.0	61	23.6	114	44.2	40	15.5
Public universities have adequate recommended resources for the success of module II	0	0.0	11	4.3	50	19.4	85	32.9	112	43.4
Feedback from module II graduates shows that the program has been a success	3	1.2	17	6.6	31	12.0	114	44.2	93	36.0

Evaluation of Teaching

All the items used to measure teaching evaluation under module II elicited disagreement among respondents. As shown in Table 4, respondents disagreed that evaluation of teaching in module II is undertaken to improve the programme and to measure teaching effectiveness, that it is conducted to improve teaching accountability, that evaluation of teaching informs professional development, and that the evaluation takes cognizance of the university learning environment.

Table 4: Perception towards Evaluation of Teaching

	strongly agree		agree		moderately agree		disagree		strongly disagree	
	n	%	n	%	n	%	n	%	n	%
Evaluation of teaching in module II is undertaken to improve the program and measure teaching effectiveness	0	0.0	5	1.9	39	15.1	111	43.0	103	39.9
Evaluation of teaching is conducted to improve teaching accountability	5	1.9	12	4.7	23	8.9	123	47.7	95	36.8
Evaluation of teaching in module II is used to inform on professional development among lecturers	3	1.2	18	7.0	48	18.6	113	43.8	76	29.5
Evaluation of teaching takes cognizance of institutional learning environment	6	2.3	30	11.6	72	27.9	89	34.5	61	23.6

Potential Antecedents for Sustainable Quality Education in Module II.

Potential antecedents for sustainable quality education in module II were analyzed using multiple regressions. The following multiple regression model was conceptualized as the link between selected factors and sustainable quality education.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Where
Y = Sustainable quality
X_1 = Admissions Policy
X_2 = Curriculum Development
X_3 = Evaluation of Teaching
X_4 = Quality Culture
β = Regression Coefficients

The multiple regressions model summary revealed that the four factors used in the study accounted for upto 68.4% of the variance in sustainable quality education. The significant F-statistic ($F_{4, 253} = 41.039$, $p<0.05$) confirmed that the conceptualized model was a good fit for the data (Table 5).

Table 5: Model Fit

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	97.792	4	24.448	41.039	.000[b]
	Residual	150.720	253	.596		
	Total	248.512	257			
Dependent Variable: Sustainable Quality Education						
Predictors: (Constant), Quality Culture, Curriculum Development, Admissions Policy, Evaluation of Teaching						

The multiple regression coefficients displayed in Table 6 revealed that: the four selected factors led by admissions policy (β=0.529, p<0.05), quality culture (β=0.459, p<0.05), curriculum development (β=0.193, p<0.05), and evaluation of teaching (β=0.252, p<0.05) in that order were significant predictors of sustainable quality in module II programme. They were therefore deemed to be probable antecedents of sustainable quality in the context of module II.

Table 6: Regression Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.548	.250		6.180	.000
	Admissions Policy	.613	.076	.529	8.017	.000
	Curriculum Development	.198	.070	.193	2.841	.005
	Evaluation of Teaching	.266	.102	.252	2.603	.010
	Quality Culture	.447	.092	.459	4.852	.000
a. Dependent Variable: Sustainable Quality						

DISCUSSION

The module II program, popularly called the parallel program, increasingly expands access to higher education in Kenya. However, sustaining the quality of education offered under this module remains a challenge. This study examined sustainable quality education and training in public universities in Kenya. The study was particularly keen on establishing potential antecedents to sustainable quality education in module II. The descriptive analysis revealed an element of laxity in complying with due procedures, such as complying with admissions policy when admitting students into the program.

The study, for instance, revealed that most universities and their campuses hardly attract international students and often rely mainly on students drawn from ethnic communities neighboring them. Moreover, students' certificates are not rigorously vetted and authenticated. These findings support views reported by Nyabuti (2018). According to Nyabuti, public universities can offer students courses they desire. Yet, they have not attracted students' required national and ethnic diversity.

The study further established that lecturers were pessimistic about the capability of the parallel program to provide quality in the teaching and learning process. The findings reflect those by Kagondu and Marwa (2017). According to these authors, higher education institutions are at different pedestals on the quality continuum. The study also revealed that several curriculum development attributes were not appealing to respondents. This finding explains why quality concerns have manifested in the parallel programme. Kagondu and Marwa (2017). Point out that curriculum development attributes are critical in quality assurance in higher education. Therefore, the lack of favourable curriculum development attributes jeopardizes the program's quality.

The finding showing that: admissions policy, curriculum development, quality culture, and teaching evaluation are all potential antecedents of sustainable quality, point to the need for stakeholders under module II to expedite conformity with their requirements. Previous studies have shown that quality education in higher education is a function of policy and procedures, quality assurance of teaching staff, and quality culture, among others (Tsinidou, Gerogiannis & Fitsilis, 2010).

CONCLUSION

The module II programme has played a critical role in providing opportunities for higher education among Kenyans. However, this module has not been without criticisms, particularly regarding the quality of education and outputs. These criticisms can be addressed if efforts are directed towards streamlining the admissions policy, evaluating the curriculum development process, establishing a quality culture, and evaluating the teaching process, all of which are antecedents of sustainable quality.

Policy Recommendation

Kenyan Universities and their campuses should look to attract students not only from localities in which they are located but also from other parts of the country and the world for enculturation.

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