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Effect Of Increased Student Enrolment On Teaching And Learning Resources In Maseno University, Kenya

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Abstract:

Higher education in Kenya has experienced tremendous growth since independence. With only one public university with an enrolment of less than 1000, the number stands at twenty two public universities with student population of over 150,000. This growth has been attributed to the introduction of module II programs and increased private and public funding for university education. However, despite the increase in enrolments, there has been no commensurate development and/or improvement of the requisite teaching staff and other teaching and learning resources. Consequently, concerns have been raised on the instructional effectiveness and the quality of education provided in public universities in Kenya. This study was conceived to establish the effect of the rapid expansion of university instructional effectiveness in Maseno University. The study was anchored on the education production function theory and adopted a descriptive survey design. The study was carried out in Maseno University. The target population was 7,175 comprising of 7,000 undergraduate students and 175 lecturers of Maseno University in the 2011/12 academic year. Simple random sampling was used to select 210 students and 96 lecturers making a sample of 306. Data were collected using a questionnaire for students and lecturers. Research instruments were validated using face and content validity while reliability was determined using test-retest technique at $r=0.7$. A pilot study was conducted in one public university and the data was used to determine the reliability of research instruments. Data was analyzed descriptively using frequencies and percentages by aid of SPSS version 17 and presented in tables and graphs. The findings of the study showed that enrolments, especially under Module II, are on a steady rise. However, the study revealed that there was no commensurate development and improvement of teaching facilities to match the increased enrolment, which has compromised instructional effectiveness and quality of education provided in Maseno University.

Key Words: Access, Instructional Effectiveness, Parallel Programmes

INTRODUCTION

Only in the recent past did universities begin to be recognized by the great establishment of society and by people in general as not only important but also as vital to the welfare and progress of society. As a result, many governments now spend significant fractions of their budgets to improve educational and research activities of their universities, to build new ones and finance the education of the increasing number of students. For instance, the Kenyan Ministry of Higher Education, Science and Technology allocated Kenya shillings 22.7 and 25.6 billion in the 2008/2009 and 2009/2010 budgets respectively for development of infrastructure and other facilities at tertiary level (Republic of Kenya, 2009). This is based on the premise that increased budgetary allocation by the government would translate into increased access and quality of tertiary education.

According to World Bank (1996), the university student population in Africa rose by 61% from 337,000 to 542,700 between 1980 and 1990. While the student population was

increasing, African governments' capacity to offer financial support to public services fell; consequently the share for education fell from 19.15% to 17.6% between 1984 and 1988. This suggests that the quality of education in African universities is falling as a result of increased enrolment against reduced funding. This trend is manifested in the falling student scores on examinations, reduced rigor on recruitment and promotion criteria, diminished research and complaints by employers on the incapability of university graduates to perform as per expected standards (World Bank, 1996).

Kenya's university education has witnessed drastic increase in enrolment since independence as a result of government considerable placement of the importance of university education in promoting socio-economic and political development (Sifuna, 1998). For example, the University of Nairobi, the only one then, experienced rapid growth and its student enrolment rose by 400% from 417 to 2,106 between 1961 and 1970 (Sifuna 1998; Republic of Kenya, 2012). The continued demand for university education resulted to

establishment of Moi University in 1984, Kenyatta University in 1985, Egerton University in 1987, Jomo Kenyatta University of Agriculture and Technology in 1994, Maseno University in 2001 and Masinde Muliro University of Science and Technology in 2007. The government has since raised the number of public universities to twenty two by converting fifteen constituent colleges to fully fledged universities (Republic of Kenya, 2012). Besides, there are 28 private universities with different levels of accreditations. Between 2000/01 and 2008/09, university enrolment in Kenya rose by 103% from 59,200 to 120,000 (Muindi, 2009). The number has since risen to 198,300 in 2011 (Republic of Kenya, 2012).

The establishment of more universities, and campuses and diversification of programs have made higher education more accessible but has also raised concerns on the quality of education being provided in the institutions. This has been attributed to the inadequate provision of teaching and learning resources that match the increasing enrolment due to inadequate funding. Consequently, this has resulted to high student-lecturer ratios which hinder instructional effectiveness in the universities (Chepchieng', Mbugua and Kariuki, 2006). This situation has led stakeholders to raise questions on the instructional processes and quality of education provide in Kenyan universities which have been accused of producing half-baked graduates (Muindi, 2009).

In 2008, Kenyan universities ranked poor in terms of quality of education provided, with the UoN, the best ranked, coming at position 4,333 in the world and 25 in Africa (Daily Nation, 2008). Ngare and Muindi (2008) attributed this dismal performance to insufficient resources, inability to attract and retain quality teaching staff due to poor remuneration and poor working conditions. A survey by Synovate indicated that due to the waning confidence in the quality of university education, majority of Kenyans preferred foreign universities (Nganga, 2011). According to (World Bank, 1996) , reduced government funding coupled with increased enrolment without commensurate improvement in available facilities poses a bigger challenge to quality education in Kenyan universities.

A study by Abagi (1996) revealed that expansion of university education in Kenya has resulted in falling academic standards. Another study by Kavulya (2004) found out that libraries in Kenyan public universities are inadequately equipped. Republic of Kenya (2004) indicated that increased student-teacher ratios have negatively affected the quality of teaching and learning in Kenyan universities. As a result, university graduates in Kenya have

been accused of not exhibiting the desired skills, knowledge and attitudes (Ayot and Briggs, 1992). This highly suggests that the negative effect of increased enrolment on quality of university education is a phenomenon that requires investigation.

This phenomenon has been exacerbated by the conversion of teachers training colleges and other middle-level technical institutions that do not have adequate facilities and staff to university colleges or fully fledged universities. For example, in 1990 Siriba Teachers College became Maseno University College, a constituent college of Moi University. It became a full-fledged university in 2000. During the period it has operated as a full-fledged university, Maseno University has witnessed great increase in enrolment but little expansion of physical facilities. For example, between the 2000/2001 and 2008/2009 academic years, the student population rose by 69% from 4,134 to 7,000 spurred by the rising demand of university education, diversification of enrollment modes and academic programmes. The surging enrolment without proportionate development and improvement of teaching and learning resources, staff and other facilities may further compromise the quality of education offered by the institution. This study therefore sought to establish the influence of expansion of university education on instructional effectiveness in Maseno University.

Statement of the Problem

The aim of expanding university education in Kenya is to produce adequate qualified and skilled human resource to steer the country to achieve industrialization by 2020, Vision 2030 and the Millennium Development Goals by 2015. However, the rapid expansion of university education amid inadequate provision of teaching and learning facilities poses serious challenges on the instructional effectiveness in Kenyan universities which has far reaching effect on the quality of education offered. Kenyan universities have been accused of churning graduates who are not adequately equipped with the desired competencies required in the world of work. As a result, the public and private investment in university education may not bear the desired results. It was therefore imperative that a study be carried out to establish the effect of increased student enrolment on teaching and learning resources in Maseno University.

The Objective

The objective of this study was to establish the effect of increased student enrolment on teaching and learning resources in Maseno University.

Conceptual Framework

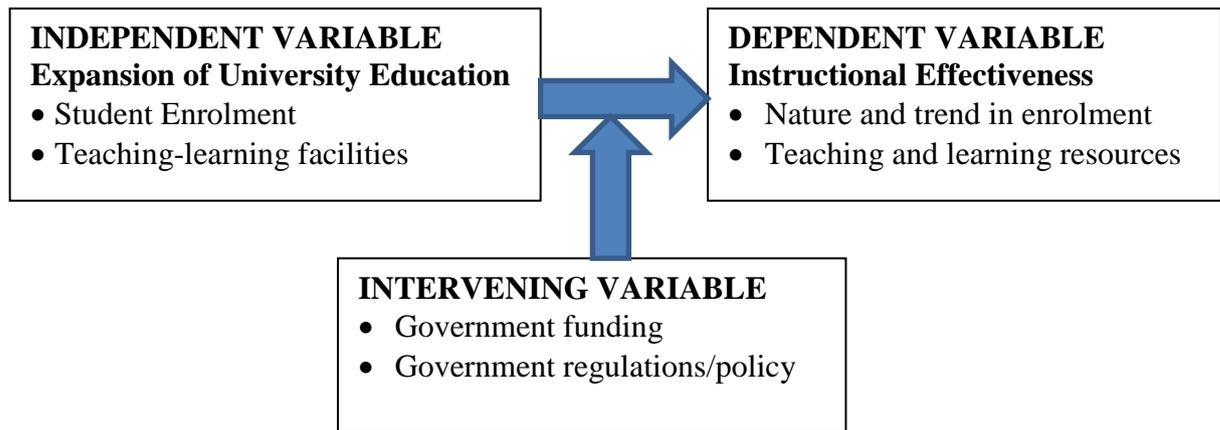


Figure 1: Conceptual Framework

From Figure 1 above, students’ enrolment, teaching learning facilities and characteristics of teaching staff are crucial in determining instructional effectiveness at Maseno University. In this relationship, expansion of university education (student enrolment, teaching-learning facilities and academic staff characteristics) are the independent variables while instructional effectiveness is the dependent variable. This relationship assumes that instructional effectiveness is a function of expansion of university education which leads to a nature and trends in student enrolment, adequacy and use of teaching resources, research outputs, instruction methods and quality of student-lecturer academic interactions.

Other than the number of students enrolled, instructional effectiveness may also be affected by other variables such as government funding, government regulations/policy, students’ socio-economic status, fees charged/collected and courses/programs offered.

Research Methods

This study adapted the survey design. Survey gives more accurate research results by enabling the researcher to gather data from a large population of the study area (Oppenheim, 2003). According to Kerlinger (1973), survey is a method that studies large population (universe) by selecting and studying the sample(s) from the population to discover the relative incidence, distribution and interrelations of sociological and psychological variables. In this study, expansion of university education was the

independent variable while instructional effectiveness was the dependent variable.

The target population for this study was 7,175 comprising of 7,000 students and 175 lecturers in Maseno University at the time of this study. Stratified and simple random sampling techniques were used to select the students and lecturers. Stratification ensured that the researcher targeted all the different groups in the population (Dalen, 1979). The 19 academic departments in Maseno University formed the basis on which the students and lecturers were stratified. Simple random sampling was used to select 210 students and 96 lecturers making a sample of 306.

Data was collected using questionnaires for students and lecturers. Research instruments were validated using face and content validity while reliability was determined using test-retest technique at $r=0.7$. A pilot study was conducted in one public university and the data was used in the reliability of research instruments. Data was analyzed descriptively using frequencies and percentages and presented in tables and graphs.

111. FINDINGS AND DISCUSSIONS

Students and Lecturers Engagement

This study sought to establish the lecturers/students’ academic engagement in Maseno University. The findings are presented in table 1 below.

Table 1: Lecturer/Student Academic Engagement

Status	Consultations		Helping Make Notes		Asking Questions in Class	
	Students	Lecturers	Students	Lecturers	Students	Lectures
Yes	39 (18.6%)	13 (13.5%)	41 (19.5%)	57 (59.4%)	38 (18.1%)	37 (38.5%)
No	171 (81.4%)	83 (86.5%)	169 (80.5%)	39 (40.6%)	172 (81.9%)	59 (61.5%)

The results in Table 1 indicated that a large percentage of students and lecturers agreed that there were minimal consultations in the teaching and learning process with over 80% of both students and teaching staff. As reported by Wanzala (2013) universities in Kenya suffer poor situation of teaching staff and low salaries which has eroded their commitment to providing quality performance. This has been made worse by poor teaching methods in the resource limited environments which negatively impacts students and compromises the quality of graduates. The results on this indicator of quality imply students do not interrogate the lecturers on issues that they did not understand or find difficult. This suggests that the students' ability to develop critical thinking and debate is lacking in the teaching and learning process at Maseno University. This may be a confirmation of stakeholders' fears on the quality of teaching and learning in Kenyan universities including Maseno University.

Further, 80.5% of the students indicated that they are not helped to make notes during the lectures while 40.6% of teaching staff indicated they do not help students to make notes during lectures. This could be attributed to the large classes and poorly qualified teaching staffs that do not appreciate and apply the principles of effective teaching and learning. Gibbs and Jenkins, (1990) advised that the lecturer should help students make good notes as well as ensure they refer to them as soon as possible through assignments and questions..

Similarly, the results showed that 81.9% of students and 61.5% teaching reported lack of asking questions during lessons. This could be attributed to both large classes which inhibit interaction between the teaching staff and the students, and poor qualifications on the part of the teaching staff which makes them incapable of using this method. For effective teaching and learning, lecturers need to challenge their students to think critically and analytically through asking challenging questions within the lesson (Cryer & Elton, 1992).

Adequacy of Lecture Space

The rapid expansion of university education in Kenya has been largely blamed for lack of and/or overcrowding in lecture halls in universities. For effective teaching and learning the adequacy of lecture space is mandatory. This study therefore sought to establish the perception of students and lecturers on the adequacy of the lecture spaces. The results are presented in the table 2 below.

Table 2: Adequacy of Lecture Space

Status	Students	Lecturers
Adequate	63 (30%)	25 (25%)
Fairly Adequate	109 (51.9%)	58 (60.4%)
Inadequate	38 (18.1%)	14 (14.6%)

The results in Table 2 revealed that only 30% of students and 25% of teaching staff considered the lecture spaces adequate, while 51.9% of students and 60.4% of teaching staff indicated that the available lecture spaces were only fairly adequate.

Chacha (2004) reported as a result of increased enrolments, public universities in Kenya are experiencing overcrowding and which contributed to falling academic standards. Sifuna (1998) reported that as a result of increased access to university education in Kenya there is overcrowding in hostels and classrooms. As such, some students listen to lectures while standing outside the lecture halls. In a study on the adequacy of lecture rooms in public universities Gudo *et al* (2011) found that the level of satisfaction among students in relation to lecture rooms was significantly low in public universities. The study reported overcrowding in public universities which hampers effective teaching and learning. The study concluded that lack of appropriate sitting space causes lack of concentration and student attention to the lecturer who delivers a lesson, encouraging rote learning.

Suitability of Lecture Space

The study sought to establish the perceptions on the suitability of the lecturer spaces in Maseno University. Respondents were asked to rate the suitability of the lecture space in terms of suitable, fairly suitable and unsuitable. The results showed that majority 73.3% of students and 68.8% of lecturers indicated the available lecture spaces were suitable, while only 9.1% of students and 7.2% teaching staff indicated they were unsuitable.

Accessibility of Lecture Space

The study sought to establish the perception of students and lecturers on the accessibility of lecture space in Maseno University. The results showed that 79% of students and 59.4% of teaching staff indicated the available lecture spaces were accessible, with only 6.2% and 11.4% of students and teaching staff respectively indicating they were inaccessible. For effective teaching and learning to take place, facilities, including lecture spaces, have to be adequate, suitable and accessible to both students and teaching staff (Crisp *et al*, 2004). The findings of this study corroborate findings by Sifuna (1998) and Abagi (1996) who reported that the rapid expansion of university education in Kenya has led to overcrowding in lecture halls, with some students attending lectures while standing or outside the lecture halls. When lecture spaces are not easily accessible, both students and lecturers are likely to waste time trying to access them, or completely fail to access them to conduct teaching and learning hence standing in the way of effective instructional and the quality the education provided.

Adequacy of Library Resources

For meaningful learning in any institution of higher learning, the adequacy of library resources should be ensured. The results are presented in table 3 below.

Table 3: Adequacy of Library Resources

Status	Students	Lecturers
Adequate	40 (19.04%)	16 (16.6%)
Fairly Adequate	54 (25.7%)	26 (27.1%)
Inadequate	116 (55.3%)	54 (56.3%)

It can be discerned from Table 3 that majority of students and lecturers, 55.3% and 56.3% respectively indicated that library resources in Maseno University were inadequate, while another 25.7% of students and 27.1% of teaching staff indicated they were fairly adequate. Only 19% of students and 16.6% of teaching staff indicated they were adequate.

A study by Abagi (1996) noted that as a result of the expansion witnessed in university education in Kenya, the number of students and teaching staff overwhelm library resources. According to Misaro *et al* (2013) local universities are forced to work under adverse conditions including lack of resources for teaching and learning material such as textbooks, journals and research equipment. This has resulted in a lowering of academic standards and of quality of graduates who are found deficient in written communication and technical proficiency which make them unfit for the job market.

The library of any learning institution needs to be equipped with adequate resources related the programs offered. These support both the students and lecturers to conduct research to enrich the knowledge and information. Lack of enough library resources in Maseno University therefore hinders the quality of the instructional processes and education in the University as noted by stakeholders.

Suitability of Library Resources

The study also sought to establish the perception of students and lecturers on the suitability of library resources. Students and lecturers were asked to indicate whether they considered library resources suitable, fairly suitable or unsuitable. The results showed that 70.5% of students and 63.5% of lecturers considered library resources at Maseno University unsuitable. Only 18.1% of students and 24% of lecturers considered them fairly adequate with another 11.4% of students and 12.5% of lecturers considering them suitable.

The development of critical, analytic and research skills requires that students experience varied intellectual viewpoints and play an important role in interpreting, evaluating and synthesizing the information which is available to them through books and other learning resources (Wanda, 1998). Abagi (1996) noted that as libraries in Kenyan universities hold outdated books and journals. Kavulya (2004) also observed that libraries in Kenyan universities did not positively contribute to effective teaching and learning as they have unsuitable and inadequate resources.

Library resources need to be suitable enough to provide students an alternative source of information that helps to enrich what they are presented with in class. Similarly, lecturers use library resources to make and/or improve and update the content they present to their students during lessons. As observed by other stakeholders, lack of suitable library resources is an indicator of ineffective instruction and poor quality of education.

Accessibility of Library Resources

This study was also interested in establishing the perception of students and lecturer in relation to the accessibility of library resources at Maseno University. They were asked to indicate whether library resources were accessible, fairly accessible or inaccessible. On accessibility of library resources, Figure 4 revealed that 61% of students and 58.2% of teaching staff indicated they were inaccessible, while another 22.8% of students and 23% of teaching staff indicated they were fairly accessible. Only 16.2% of students and 18.8% of teaching staff indicated that the available library resources were accessible. For library resources to be useful, the need to be accessible to both students and lecturers, otherwise they will not serve the purpose. If students and lecturers don't easily access them, then they will merely reproduce what is in lecturers and cannot keep up to speed with new developments in information and knowledge, and indication of poor instructional processes.

The results show that library resources in Maseno University are not adequate, suitable and accessible. This has a neagative effect on the teaching and learning processes and raises concerns on the quality of education provided. As indicated by Sifuna (1997), Abagi (1996) and Kavulya (2004) the expansion of access to university education is not commensurate with the expansion of teaching and learning resources in the library.

Adequacy of Laboratory Resources

This study sought to establish the perceptions of both students and lecturers on the adequacy of laboratory resources. Students and lecturers were thus required to

rate whether they thought the resources were adequate, fairly adequate or inadequate. The results are presented in table 4 below.

Table 4: Adequacy of Laboratory Resources

Status	Students	Lecturers
Adequate	6 (14.3%)	3 (15.8%)
Fairly Adequate	26 (62%)	11 (57.9%)
Inadequate	10 (23.7%)	5 (23.3%)

From Table 4, a significant number of respondents from the science-related programs, 62% of students and 7.98% of teaching staff, indicated that laboratory resources were fairly adequate, while 23.7% students and 23.3% of teaching staff indicated laboratory resources were inadequate. Only 14.3% of students and 15.8% indicated that the available laboratory resources were adequate.

Okwakol (2008) reported that most African universities do not have adequate laboratory spaces to provide a suitable learning and teaching environment. She noted that 55% of laboratory equipment in most departments in universities was not in a state in which they could be used to carry out experiments. The net effect of this scenario was that only about half the experiments were done. In a similar study, Gudo et al (2011) found out that public universities did not have up-to-date laboratory and workshop equipment and therefore not able to support effective teaching and learning.

The implication of this is that practical lessons and experiments, which are crucial in science-based courses, are not as adequately performed as expected. This is an indicator of poor instructional processes and raises concerns about the quality of the graduates from the science-based programs in the University. Based on these findings, the ongoing debate on the quality of graduates from the Kenyan Universities may be a pointer to a serious problem in the instructional processes and quality of education that needs immediate and urgent efforts to address the challenge and restore the confidence of stakeholders in the quality of education.

Suitability of Laboratory Resources

The study sought to establish the perceptions of students and lecturers on the suitability of the laboratory resources. The respondents were asked to indicate whether the resources were suitable, fairly suitable or unsuitable. 45.2% students and 52.6% indicated that the laboratory resources at Maseno University were fairly suitable, with only 38.1% of students and 31.6% indicating the available laboratory resources were suitable. As reported by Kavulya (2004) the teaching and learning resources in universities in Kenya do not positively contribute to effective teaching and learning as

they have unsuitable and inadequate resources, including laboratory resources. Gudo *et al* (2011) added that public universities did not have up-to-date laboratory and workshop equipment. Lack of suitable laboratory resources at Maseno University can be attributed to lack of adequate funds to fund laboratory resources and/or lack of appreciation of their contribution to effective teaching and learning on the part of the university management and the teaching staff. When laboratory resources are not suitable as reported in Maseno University, both the instructional processes and quality of education are compromised, which is in tandem with the concern raised by many stakeholders.

Accessibility of Laboratory Resources

The study sought to establish the perception of students on the accessibility of laboratory resources. The students and lecturers were asked to indicate whether they thought laboratory resources were accessible, fairly accessible or inaccessible. 54.7% of students and 47.4% of teaching staff indicated laboratory resources were fairly accessible while 31% of students and 31.3% of teaching staff indicated they were inaccessible. Only 14.3% of students and 21.1% of teaching staff indicated the laboratory resources were accessible. As observed by stakeholders, this limitation raises serious concerns on the quality of both the instructional processes and education in Maseno University in the science-based programs which require extensive practical sessions and experiments.

Use of Internet Services for Teaching and Learning

The study sought to establish the usage of internet in the teaching and learning. Students and lecturers were asked to indicate whether they did or did not use internet for teaching and learning. The results are presented in table 5 below.

Table 5: Use of Internet Services in Teaching and Learning

Status	Students	Lecturers
Yes	111 (55.5%)	58 (60.4%)
No	99 (44.5%)	38 (39.6%)

The results in Table 5 showed that 55.5% of the students and 60% of teaching staff indicated they use internet services for teaching and learning. Still, a large proportion of 44.5% of students 39.6% of lecturers indicated they did not use internet services in the teaching and learning process. Republic of Kenya (2004) noted the local universities face a deficit in terms adopting modern technology and innovation to transform the knowledge generated into final products and equip the graduates with the desired skills necessary to be effective as productive workers. According to Wanzala (2013), the poor response to

technological advances for teaching in learning has significantly contributed to poor training and learning in universities in Kenya. The prevailing situation in Maseno University implies that the students and lecturers rely only on the print source for knowledge and information and cannot therefore keep abreast of the most current content. In addition, they are not competitive in the global markets since their knowledge is limited. This is a worrying situation and pointer to ineffective teaching and learning and quality of education as reflected in the views of the various stakeholders.

Accessibility of Internet Services for Teaching and Learning

The study was solicited information on accessibility of internet services for teaching and learning from students. Students and lecturers were asked to indicate whether internet for teaching and learning was accessible, fairly accessible or inaccessible. The results are presented in table 6 below.

Table 6: Accessibility of Internet Services for Teaching and Learning

Status	Students	Lecturers
Accessible	48 (22.9%)	37 (38.5%)
Fairly Accessible	149 (71%)	53 (55.2%)
Inaccessible	13 (6.1%)	6 (6.3%)

From Table 6, only 22.9% of students and 38.5% of teaching staff indicated that internet services for teaching and learning were accessible, 71% of students and 55.2% of teaching staff indicated they were fairly accessible while only 6.1% of students and 6.3% of teaching staff indicated they internet services were inaccessible.

According to Okwakol (2008), the computer is increasingly becoming the major notebook, textbook, dictionary and storage facility for information for students in quality institutions of higher learning, and universities that fail to utilize the benefits of the digital age-computer assisted learning, web connectivity and networked learning cannot offer quality education. Public Universities Inspection Board (2006) observed that the quality and quantity of teaching and learning materials particularly information technologies impact in a very significant way on the quality of teaching and research. Gudo *et al* (2011) noted that there were inadequate and unsuitable computers and internet for teaching and learning in public universities. In addition, Chacha (2004) observed that most universities in Kenya have very limited access to modern computing and communications technology, so it is increasingly difficult

for teachers and students to keep abreast of current developments in their academic areas.

In an environment already constrained by shortage of the traditional resources like books and library and laboratory resources, and lack of adequate qualified lecturers, the lack of access to internet services for teaching and learning further limits research and the information and knowledge students and teaching staff can access, which raises doubts on the quality of the instructional process. These findings seem to reinforce stakeholders' fears that the education provided in local universities does not meet the expected quality standards.

Conclusion

This study concluded that there were cases of unreasonably large classes in the Maseno University, which inhibit interaction between the teaching staff, other teaching and learning resources and students thereby negatively affecting the instructional effectiveness. An analysis of the qualifications of teaching staff indicated that most of them do not meet the minimum requirements to teach at university level. The lecture spaces, library and laboratory resources are generally found to be inadequate, unsuitable and inaccessible by both students and teaching staff. It was concluded that there was no commensurate development and improvement of teaching and learning facilities to meet the rising enrollments, which has compromised the quality of teaching and learning in Maseno University.

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