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High Student Enrolment and its Implication on Teaching and Learning in Selected Public Universities in Kenya

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Abstract: *This paper is based on a study which highlighted on the impacts of high student enrollment levels to existing instructional resources in selected public universities in Kenya The study analyzed the impact of high students' enrolment levels on instructional resources in selected Public Universities in Kenya. The objective of the study was to determine the impact of high students' enrollment on teaching and learning facilities in selected public universities in Kenya. The study was guided by the general system theory. The study employed a mixed research design. A pragmatic philosophical paradigm was adopted in the study. Probability sampling method was adopted which included a simple random and stratified random sampling procedures. The targeted population was 390 from six selected public universities in Kenya. This consisted of 240 lecturers, six deans of schools of education, 48 examination officers and 24 heads of departments in the School of Education. The data collection instruments used were closed and open ended questionnaires, interviews and observation. Data was analyzed by descriptive and inferential statistics. The findings of the study found out that student enrollment and instructional resources correlated negatively. The increasing population had affected the quality of teaching, instructional methods and the administration of examination in the six public universities in Kenya. It identified inadequacy, inaccessibility and scarcity to existing teaching and learning resources. The study further revealed that even though some public universities had adequately implemented educational policies, laboratories, lecture halls, library facilities and the quality of teaching was still compromised. The potential beneficiaries of the discussions in this paper would be the deans of schools, heads of departments, examination officers and lecturers in the schools of education in the provision of better management skills on student enrollment level effects on the existing teaching and learning of resources.*

Key Words*: Student Enrolment, Teaching, Learning, Resources, Public Universities, Kenya.*

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I. Introduction

1.1 Overview

The Department for International Development (DFID) research study confirmed that the most consistent characteristics in improving student performance are the availability of (i) textbooks and supplementary Teaching and Learning Materials (TLM), (ii) well trained, prepared, supervised and motivated teachers (human resources) and (iii) adequate physical facilities. On the same concern ,the Organization for Economic Co-operation and Development (OECD) and the Programme for International Student Assessment (PISA) had shown that resource shortages hindered instruction and lowered student performance [1]. In addition, inequalities in student's educational performance often reflected disparities in the resources invested in schools [2]. It has been noted that , the pressures of massification and the need to improve academic standards lies behind much of the impetus towards internationalization, both in terms of importing educational services in most regions which encourages the exporting of students abroad. The range of motivations is quite varied among third world countries and has shifted over time. The developing ountries are arguably the most active region in transnational education. It has the largest numbers of students studying abroad, and many of its universities are eagerly borrowing foreign (especially American) models of higher education [3].

Higher education has amassed a large and rapidly increasing population of young person's thought eligible for study, a great majority of whom attend university-level institutions rather than more limited or specialized schools. There was approximately 20% of the relevant age cohort enrolled in higher education worldwide [4, 5, 6].The internationalization of higher education is, of course, not new. Indeed, the ancient universities of Africa, Asia and Europe were designed and served as regional communities of learning and scholarship. But the bulk of the world's universities were established in the 20thCentury and three quarters of them since 1900 and half since 1945 were largely national in scope and nationalist in orientation [7].

1.2 Statement of the Problem

Globally, governments are very much concerned with student enrollment in university education However; one of the most serious problems facing public universities globally Kenya inclusive is a continuous increase in student numbers which has resulted in limited instructional resources. In order to overcome the problems, governments remit funds to public university to finance their needs [8]. However, complains exist from users of teaching and learning facilities on existing instructional resources. They argue that there are inadequate and inaccessible to all students. It was, therefore, important to analyze whether or not if the existing instructional resources are actually affected by the student enrollment level [9].

Discussions on quality issues in the enrollment of university education in Kenya have identified that the management of the universities in the country had faced serious human resource challenges. These challenges arose from the fact that the rapid enrollment of university education in the country had not been accompanied with the provision of resources in order to maintain high standards, and quality relevance[10]. Okioga et al.'s study served as a guiding link to the current study on the impact of high student enrolment on teaching and learning resources in selected public universities in Kenya. This paper argued that high student enrollment exercises challenges on the quality of education. In turn, these challenges hamper opportunities in higher education globally, regionally and nationally. No research, however, had been undertaken to discern the impact of high student enrolment to the teaching and learning resources in six selected public universities in Kenya. hence the study investigated on the impacts of high student enrolment level on teaching and learning resources in selected public universities in Kenya.

1.3 Theory and Conceptual Framework

The study adopted the systems theory as propagated by Ludwig von Bertalanffy and later adopted by Robert Owen [11].This was advanced as allegemeine Systemlehre (general theory of systems or, more popularly, general system theory).Systems theory has been proposed as a potential overarching framework for dealing with many issues in human behavior. Contributors to systems theory have come from many diverse fields, including physics, biology, anthropology and psychology [12]. The systems theory in its characteristics is regarded an organization with various functionalities which are partly economic, partly technical, partly political and partly social. It consists of parts, each of which forms a sub-system. The organization itself is a part of a larger system that is the environment, society, government and so on. A system has interrelationships among the parts of each system so that changes in one part lead to changes in another. A system has the function of management that brings about four aspects namely; integrative activities in the different parts of each sub-system, the different sub-systems within the organization, the different sub-systems themselves and between the system and their environment [13].

This theory was adopted because the systems theory was straight-forward in its suggestions regarding managing change. The techniques offered are a useful demonstration as a willingness to go beyond simple relationships. It was therefore an attempt to fill in some of the more complex details of the effects of enhanced student enrollment levels , especially on student enrolment and utilization of instructional resources [14].

1.4 Literature Review: Student Enrolment levels in University Education vs. Teaching and Learning Resources

In countries such as Brazil, Ecuador, Argentina, Puerto Rico, Colombia and Venezuela, reforms to improve or redefine aspects related to higher education assessment mechanisms, tuition fees, curriculum and syllabus planning, and course offerings has been identified. Recent years have also seen renewed interest in building a more extensive and better qualified research base and in endogenous knowledge production and its links to scientific and technological innovation systems [15, 16,17].Teaching and learning resources basically comprises three components: material resources, physical facilities and human resources [18]. Studies carried out on teaching and learning resources have revealed that these are not always adequate in public universities. The shortages of teaching resources have been a concern for educators. Instructional facilities affected the quality of education in higher education in Kenya. Furthermore, reports on public universities have noted that the quality and quantity of teaching and learning material was significant for quality teaching and research. The quality of education was institutional, academic or subject based. Managers of educational institutions such as deans, heads of departments and principals regarded quality output as an asset and a promotional mechanism. High performance by an institution speaks volumes of quality educational programme [19]. Quality was measured by the study completion rates, overall grades profitability or similar performance indicators [20].

Lecturers judged quality from the perspectives of their particular discipline and average performance in that disciplined Learners are best judged from the quality of training and its value. Students are perhaps the main victims of massification. They have to contend with overcrowded classrooms, unavailability or insufficiency of academic facilities including accommodation, reading materials, research equipment, and computers. In this case, their academic life becomes very stressful since they cannot cope with a myriad of challenges [21, 22].

II. Materials and methods

The study conducted a descriptive survey research design in six public universities: Moi University (MU), Egerton University (EU), Maasai Mara University (MMU), University of Kabianga(UOK), Masinde Muliro University of Science and Technology (MMUST) and the University of Nairobi (UON) in Kenya which were selected using purposive sampling due to their uniqueness. Moi University is located in Uasin Gishu County.It is 30 kilometers from Eldoret town, and 293.6 kilometers from Nairobi, the capital city of Kenya while Egerton is located in Nakuru town, which is 153 km from Eldoret town and 158kilometers from Nairobi. Maasai Mara University is 142 kilometers from Nairobi, University of Kabianga is 288 kilometers while the University of Nairobi, being the oldest and largest in terms of resources and departments, is located in Nairobi.

The rationale for the selection of the six public universities was that most of the "mother universities" had relocated some resources to their satellite campuses. Furthermore, some of these universities were leading among the factors considered among public universities in Kenya, such as instructional resources, student enrolment levels and student performance. The University of Nairobi was selected for it is the largest and oldest university, Egerton university was picked because of its excellence in agricultural oriented educational programs, Masinde Muliro University of Science and Technology was selected due to its technology oriented educational programmes, University of Kabianga and Maasai Mara University were selected because of being excellence centers of learning of the post satellites programmes and Moi university was selected because it is the centre for educational programmes and innovation. One university which was not included in the actual study was selected for pilot testing for logistic concern..

In the study, open ended questionnaires, semi structured interview schedule, and semi structured observation items were used to collect information from 191 respondents. Content validity was employed by expert judgment. The instruments were scrutinized by experts. The judgments from the scholars were drawn from management oriented specialization. The focus was on teaching, learning, research and community services. A determination on whether the items in the instruments adequately addressed the objectives of the study was performed [23]. The degree of stability was determined by comparing the results of repeated measurements while the equivalence was considered on how much error had been introduced to investigations or samples [24]. Two evaluators compared their observations of the same test for the equivalence of measurement. Questionnaire guides, observation guides and interview guides instruments were piloted. The consistency of the instruments was administered by using the test retest reliability coefficient, where two sets of data obtained from the same group of respondents at varied times .During the piloting , the questionnaires were correlated using the Pearson product moment correlation. This was guided by how consistent the results were. Table 1 shows the results of the reliability of the research instruments.

Table 1: Reliability of Research Instruments

Instruments	Reliability coefficients
Deans of schools	0.83
Chairpersons of departments	0.79
Lecturers	0.78
Examination Officers	0.77

The questionnaires were piloted among thirty respondents in the University of Eldoret on impacts of student enrolment levels on teaching and learning instructional resources in public universities in Kenya. The instruments were piloted tested in two occasions within duration of one month in one of the departments in the University of Eldoret. The pilot study conducted revealed a reliability test that determined the variables used in the study. The study findings revealed that all the variables used had a reliability of 0.619 which was not reliable but when the unreliable variable were exposed the reliability rose to 0.747. This signified that the data set was reliable for the study.

The data for this study was collected in four phases. First, the researchers visited the area of study to familiarize with the research area while obtaining the relevant data for refining the research The researchers conducted a survey on the potential respondents in order to obtain information related to the area of study. The findings enabled the researchers to have clarity on the expected study in accordance to the existing questionnaires. Second, the researchers established a rapport with the potential respondents and authorities in order to obtain clearance in the selected departments in the public universities. Third, observation was conducted as a focused discussion for the preliminary data analysis which identified the major issues in the study. Fourth, there was the interviewing of the potential respondents through face-to-face interviews. Information was collected through the use of checklists, interviews schedules, eyes, other senses and scales in the field. The questionnaire was self administered with the use of a few research assistants. Several statistical analyzes were conducted on the data collected. First, data was analyzed using frequencies, percentages, mean scores and standard deviation. Next was a series of descriptive statistics and inferential statistical test. The study summarized data into information by regression and hypothesis testing.

III. Findings and discussion

3.1 Instrumentation Response Rates

Based on the research findings out of 191 questionnaires administered, only 142 respondents filled in and returned the questionnaires thus giving a response rate of 74%.

3.2 Impact of High Student Enrolment on Teaching and Learning

The study first conducted a reliability and factor analysis to determine which variables were reliable for the study. The findings of the reliability test and factor analysis are presented in Table 2.

Table 2: Responses on Impact of High Student Enrolment on Teaching and Learning

IHSE		Responses (Percentage)				
		5	4	3	2	1
1.	High student numbers affects general student supervision	1(16.7)	4(66 .6)	-	1(16.7)	-
2.	Lecture student contact is affected	4(66.5)	-	1(16.7)	-	1(16.7)
3.	Libraries are congested	4 (66.5)	-	1(16.7)	-	1(16.7)
4.	High student numbers leads to lecture room congestion	1(16.7)	4(66.6)	-	1(16.7)	-
5.	Library spacing and laboratory spacing is a problem	1(16.7)	4(66.6)	-	1(16.7)	-
6.	Lecturer student contact hour affected	4(66.5)	-	1(16.7)	-	1(16.7)

Legend: Strongly Agreed (5); Agreed (4); Undecided (3); Strongly Disagreed (2); Disagreed (1)

When asked how high student enrollment level affected the learners' performance, the deans stated that it affected the general student supervision, lecture hall use, laboratories, libraries and student: lecturer ratio. The findings indicated that one disagreed that student enrollment had an impact on student performance (4(16.6%)] This implied that there was inadequacy. Four deans of schools responded that they strongly agreed 10 (83.4 .6%) which implies that the instructional resources were adequate.

When asked how high student enrollment affected the learners' performance, the lecturers observed that it affected general student supervision, lecture hall use, laboratories, libraries and student: lecturer ratio. The findings indicated that one disagreed that student enrollment had an impact on examination administration (40(60%). .These results intimate that there was inadequacy. Four deans (10; 19.5%) of schools responded that they strongly agreed indicating that they agreed on their impact. This implies that the instructional resources were adequate.

When asked how high student enrollment affected the learners' performance, the Examination Officers in the schools of education in the selected six public universities said that high student enrollment affected the learners' performance, general student supervision, lecture hall use, laboratories, libraries and lecturer: student ratio. The findings indicated that 10 disagreed that student enrollment had an impact on examination administration while 2 (8.4%) lecturers disagreed. This implied that there was inadequacy.

3.4 Correlation Analysis

Table 3: Analysis on Correlation Matrix Correlations (N=120)

		Quality of teaching	Instructional resources	Examination related challenges	Learner performance	Environmental policies
Quality of teaching	Pearson Correlation	.249**	1			
	Sig.(2-tailed)	.006				
	N	119	113			
Examination related challenges	Pearson Correlation		.632**	1		
	Sig.(2-tailed)	.000	.000			
	N	125	133			
Learner performance	Pearson Correlation	A	.648*	.529	1	
	Sig.(2tailed)					
	N	0	14	14	.274	
Instructional methods ' Teaching /Learning facilities	Pearson Correlation					1
	Sig.(2-tailed)	.006	.000	.000	.344	
	N	120	130	133	14	

** Correlation is significant at the 0.01 level (2-tailed)

Regarding seat capacity, laboratory and lecture hall spacing, the seat capacity distribution in the laboratories were: Egerton University (23, 22%); Maasai Mara University (11, 11%); Moi University (26, 26%); University of Kabianga (16, 13%) and the University of Nairobi (14, 7%).The highest level of ratio between the student number and resources the public universities were Moi University and the University of Nairobi with 28.5% respectively. The remaining universities were inadequate, moderate and low leveled respectively. The percentages were each 8.5%.

Moi University and University of Nairobi had the highest number of lecture halls observed of 21 (23.3%) while Masinde Muliro University of Science and Technology had the lowest number of lecture halls observed (8, 8.8%). The study revealed that there is a need to provide more lecture halls to meet the student populations in most public universities. The levels of adequacy in the seat capacity were low leveled in public universities; the percentage was 15%, 10% and 13%. Moi University had a high level seat capacity of 30%, while Maasai Mara University had the lowest level of seat capacity in the lecture hall of 10%.

IV. Conclusion

Based on interpretation of the research findings, the majority of the respondents had a positive attitude towards student enrolment level and teaching and learning resource in public universities in Kenya. The study was guided the following research problem to analyze the impact of student enrollment on teaching and learning resources in public universities in Kenya. The study was guided by these specific research questions What are the impacts of student enrollment level on teaching and learning resources in public universities in Kenya? , What are the impacts of Student enrollment level on the quality of teaching in public universities in Kenya? Does Student enrollment level affect academic performance of students in public universities in Kenya?, What are the impacts of Student enrollment level on the administration of examination in public universities in Kenya? Does Student enrollment influence the instructional methods used in public universities in Kenya.

The Deans of school in education perceived various challenges in implementing policies w due to increasing student enrollment levels. The heads of department determined that there was a n influence existing between student enrolment and teaching and learning resources in public universities in Kenya. The respondents that student enrollment and the quality of teaching in public universities contributed to incomplete end of semester output processing time. The effects of student enrollment on academic performance of students was reflected as having negative impact. Furthermore the influence of student enrolment level on the administration of examination in public universities was seen to have contributed to cheating in examination.

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