Makerere Journal of Higher Education

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Editorial

Welcome to the fourth volume of Makerere Journal of Higher Education (MAJOHE). In this issue, Bolupe Awe examines the influence of age on the quality of academic programmes in South West Nigerian universities. Using data drawn from some 600 academic staffs, Awe reports that there is relationship between the age of a university and its adherence to quality assurance standards. According to the study, there is a significant difference between first generation and third generation universities in their extent of compliance with quality assurance measures on academic programmes. Therefore, the study recommends that although all the universities in the country require support, third generation universities should be accorded greater priority in allocation of resources. It also recommends collaboration between older and newer universities.

Omona discusses the funding of higher education in Uganda. His paper touches more specifically on the modalities and challenges involved in the funding of the country's higher education sector. Cognizant of the need for adequate funding towards higher education institutions, Omona's paper *scans* Uganda's higher education funding environment. Subsequently, the paper identifies opportunities for redressing the current underfunding of the sector.

Philipo L. Sanga delves into cross border higher education, with specific reference to the East African region. This paper notes that in as much as cross border movement of students is presenting the students, lecturers, higher education institutions and nations with a range of benefits and opportunities, it also threatens the quality of higher education in a number of ways. Thus, the paper argues, national higher education quality regulatory agencies and frameworks may not be adequate to regulate cross border higher education, given its multinational character. Therefore, the paper argues for a regional approach to the regulation of cross border education. Subsequently, the paper discusses some of the prospects for and constraints impeding realization of this regional approach.

Fabiyi and Uzoka examine massification and its impact on quality assurance in tertiary education and the extent to which lecturer–student ratio, adequacy of infrastructure and pedagogical resources affect quality in tertiary institutions. The study found that lecturer–student ratio, adequacy of infrastructure and pedagogical resources affect quality in tertiary institutions. These authors emphasise a familiar call to restraint: efforts to expand access to higher

education should extend to expanding the availability of the human and material resources that are required for quality higher education delivery.

Bakkabulindi's study sought to establish the levels of use of knowledge management systems by graduate students in the College of Education and External Studies in Makerere University and to link the same to characteristics related to a given respondent's organisation of employment, namely ability to absorb change, KMS culture, size and leader's KMS change management style. The study reports low levels of use of knowledge management systems. Nevertheless, none the four organizational characteristics was a significant correlate of the same, the inference being that there are *other* correlates of use of knowledge management systems among the sample. Subsequently, the study makes a call for providing the students with support towards using the systems, irrespective of the students' organisational/ professional backgrounds.

Namanji and Ssekyewa discuss some of the factors underlying the failure of research to influence policy formulation and implementation in these countries. Starting with a brief discussion of the common paradigmatic and epistemological traditions in research, the paper discusses the challenges involved in development research. Thereafter, it makes a case for a mixed methods approach that is deliberately linked to felt development needs.

Dominic et al. report the findings of a study that investigated 252 University of Ilorin students' awareness of the benefits of physical fitness and the need for empowering them for lifetime productivity. They report that students are aware of the benefits inherent in healthy fitness lifestyles and that they know that stress in academics can be reduced and productivity can be enhanced by maintaining a lifestyle of physical activity. Ironically, many of the students were found to be vicarious participants in sports. The students expressed need for a health and fitness facilities. This study touches on an important but scarcely addressed topic in higher education management. Hopefully, we will see more commentary on the subject in subsequent issues of MAJOHE and other publications.

Fayokun's paper touches on the subject of regulating student activism. Starting with examination of the phenomenon of student activism in different settings, Fayokun's paper notes that student activism has always been a normal aspect of higher education. In Nigeria, the problem is that responsibility for the consequences of student-police standoffs during such activism is characteristically controversial. The paper discusses this controversy with specific reference to deaths of Nigerian students in clashes with the police during demonstrations and related activist efforts. Starting with a brief examination of student activities in Nigeria that involved student deaths, the paper discusses medical and legal concepts related to death and responsibility for the same. This is with the conclusion that a medical-legal approach to the definition of death and apportionment of responsibility for the same is a more

functional way of solving some of the riddles and mysteries of criminal prosecution for homicidal offences posed by unnatural deaths.

In the last paper, Tayo et al report that findings of a study that investigated the place of infrastructure in maintaining quality in Nigerian universities. They report that there is no significant difference in infrastructural development between the state and federal universities. Thus, they recommend that government increases funding towards development of the infrastructure. They also recommend that universities adhere to appropriate standards of infrastructure maintenance and enrol only those students for whom they have adequate facilities. It is interesting to note the closeness between the discussion these authors propound with those of Awe, Omona and Fabiyi and Uzoka. I suppose it would be even more interesting to hear from you about these and other discussions on higher education.

Editor


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Age as a Correlate of Quality of Academic Programmes: the Case of Public Universities in South West Nigeria

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Abstract. This study examined the influence of age on quality of academic programmes in South West Nigerian universities. A descriptive survey design was used in the study. Data were collected from 600 academic staff using stratified, purposive and simple random techniques. The data were analysed using frequency counts, percentages, means, standard deviation and t-test statistic. The study revealed that there was significant difference between first generation and third generation universities in their extent of compliance with quality assurance measures on academic programmes. Also, a significant difference was found between first generation and third generation universities on constraints to quality assurance measures with third generation universities facing greater constraints. It was recommended that both categories of universities be given adequate attention in the provision of quality-enhancing inputs. However, third generation universities should be accorded greater priority in allocation of resources. In addition, greater collaboration is recommended between first and third generation universities while newly established universities must be affiliated with older universities for mentoring.

Keywords: Age of University; Quality assurance; Programme accreditation

1 Introduction

The significance of university education in Nigeria is probably responsible for the interest shown by various governments in this sector of the educational system. For example, until 2000 all universities in Nigeria were owned either by the Federal or state governments. The Federal Government has always linked the establishment of its universities with National Development Plans and various administrations in Nigeria appear to have recognised the pivotal role of university education in national development.

The National Universities Commission (NUC) is yet to come up with an appropriate classification of Nigerian universities. However, historical

evolution of Nigerian universities allows for classification along the variable of age. For example, when the Federal Military Government in 1972 took control of university education from state (region) governments, regional universities such as University of Nigeria Nsukka, the University of Benin, University of Ife and Ahmadu Bello University became Federal universities. These universities, in addition to the existing Federal Universities (i.e. University of Ibadan and University of Lagos) were the six Federal universities in existence as at August 1975 and constitute what is now referred to as first generation universities.

The Third National Development launched in September 1975 led to the creation of seven additional universities, namely, University of Calabar, University of Jos, University of Maiduguri, University of Sokoto, University of llorin, University of Port Harcourt, Bayero University that constitute what is tagged the second generation universities in Nigeria. However, with the introduction of 1979 Constitution, the Federal Government lost absolute control of universities, a development that led to creation of state universities in Nigeria. Subsequently, additional universities of technologies were created by various governments both Federal and states. The unfettered freedom to state governments through the 1979 Constitution allowed for the proliferation of universities in Nigeria. Further development in the Nigerian university system is the incursion of private entrepreneurs. As at the first quarter of 2012, Nigeria has 122 universities with ownership pattern as follows: 36 Federal universities, 36 state universities and 50 private universities. For the purpose of this paper, all Nigerian universities in existence between 1979 and 2001 are regarded as third generation universities. It is observed that mode of emergence of universities in Nigeria could have implication on quality of their academic programmes.

The beginning of university education in Nigeria was the establishment of University College as an affiliate of the University of London in line with the traditional British practice of special relationship with London. Following this trend, second generation Federal universities started as affiliates of older first generation universities. Ukeje (1992) observed that Universities of Ilorin, Kano and Port Harcourt were initially established as University Colleges under special relationship with the older first generation universities at Ibadan, Zaria and Lagos respectively. He went further to describe this as a return to the old British Tradition of special relationships, that is, the new in the old. This type of arrangement that allows the universities to evolve rather than emerge allows newly established universities to undergo a period of tutelage before attaining maturity. This period of gestation could possibly aid new universities to establish appropriate structures required for the smooth operation of a university. This consideration must have informed the decision of the Federal

Government of Nigeria to affiliate some of the recently licensed universities with older universities.

However, state universities that came on board as from 1979 did not go through this gestation period and as such might lack necessary experience for building a solid academic and administrative structure for effective and efficient running of a university system. This could possibly translate to a situation where quality of academic programmes is constrained. On the contrary, third generation universities could exhibit better quality assurance measures learning from the experience of first generation universities. Therefore, it should be interesting to know whether disparity exists in quality between first generation and third generation universities.

In addition to acquisition of experience during the period of association with older universities, the economic situation at the period of establishment of universities could also impact on their quality. For instance, Adelabu (1992) observed that the more economically developed or wealthier a nation is, the greater the chances that its political regime will be supportive of strong civil libertarian policies such as free education. It is observed that universities in existence during the 60s and early 70s are likely to enjoy more benefits from government because of the robust economy. This situation may contrast sharply with what obtains when the nation's economy began to witness steady decline towards the end of 1979. Ogunade and Alani (1998) observed that the introduction of the Structural Adjustment Programme and the attendant inflationary effect as a result of devaluation of the Nigerian Naira accounted for huge increase in educational expenditure with no remarkable influence on educational services.

The number of universities in existence may likely have implication on the performance of these universities. This might be because these universities will be competing for the same resources. For instance the first generation universities were just six in number as at 1975, but with the creation of additional universities thereafter, there is likely to be a steady decline in the amount of resources allocated to them. For example, Aminu (1986) criticised the establishment of Federal Universities of Technology in view of their huge capital outlay when existing universities are begging for survival. He went further to suggest that some of the Federal Universities of Technology that are not viable should be shut while State Universities are generally not viable and would tend to become centres of mediocrity.

Reports of various accreditation exercises conducted by the NUC appear to indicate disparity in the performance of Nigerian universities. The NUC (2006) observed a structural imbalance in the distribution of academic staff. It was observed that most first generation universities have adequate staff compliment at the professorial level while the general trend was a bottom heavy staff structure. For example, in the case of Lecturer 1 and below, the observed figure

for first generation universities was 58.4% as against recommended figure of 45%. In the case of state universities, they were all reported to be bottom heavy and that over 70% of state universities have their academic staff being Lecturer 1 category or lower and that in some departments the head is a Lecturer Grade II (*NUC,* 2006). The outcome of the 2005 accreditation exercise further revealed disparity in the performance of these universities. While the six first generation universities had the least number of programmes with denied accreditation status, the state universities have most of their programmes under interim or denied accreditation status.

In a study conducted by Arubayi (1982) cited in Efoghe (2000) his findings identified age of university among other variables as affecting academic quality in the universities.

South West Nigeria happens to have the highest concentration of universities in Nigeria but not a single second generation university is cited in this geo-political zone. In addition, second generation universities took off as affiliates of first generation universities unlike third generation universities that were not attached to any university before attaining autonomous status. It is in the light of this that this study was conducted to examine whether age of university could exercise any significant influence on the quality of academic programmes in the Nigerian university system. Therefore, only first and third generation universities that are located in the zone will be the focus of this study.

1.1 Purpose of the Study

The purpose of this study was to find out the influence of age on the quality of academic programmes in South West Nigerian universities. In terms of age, the study investigated whether there is disparity in quality of academic programmes between first and third generation universities. In addressing the problems of this study, the following research questions were raised:

1. Is it likely that the age of universities will influence their compliance with quality assurance measures for academic programmes?
2. Is it likely that age of universities will influence the constraints to quality assurance measures for academic programmes?

1.2 Hypotheses

The following hypotheses were generated to guide the study.

1. There is no significant difference between first and third generation universities in terms of compliance with quality assurance measures on academic programmes.

2. There is no significant difference between first and third generation universities in terms of constraints to quality assurance measures on academic programmes.

2 Methodology

The descriptive design of the survey type was used in the study. The population of the study consisted of all the academic staff in South West Nigeria. Academic staff were considered as appropriate population since they occupy a crucial position on matters pertaining to development and delivery of academic programmes in universities. The sample comprised 600 academic staff with multistage sampling technique used to select the sample. At the first stage, the universities were stratified along the variables of age, that is, first generation and third generation. Four universities were randomly selected; this comprised 2 first generation universities and 2 third generation universities. At the second stage, simple random sampling technique was used to select 150 lecturers from each of the sampled universities.

A self designed questionnaire tagged Quality Assurance Questionnaire "QAQ" was used to elicit information from the subjects. The instrument comprised three sections, A-C. Section A was for personal information of the respondent such as name of institution, ownership, year of establishment, type of institution, qualification of respondent, sex, age, years of experience in the university, rank of respondent and department.

Section B had 18 items designed to determine the level of compliance with the control measures for high standard of academic programmes by the universities with the response options "Very Adequate" (4); "Adequate" (3); "Inadequate" (2) and "Very Inadequate" (1). The 18 items were clustered into 8 items. In addition, the response options of "Very Adequate" and "Adequate" were merged under adequate while "Inadequate" and "Very Inadequate" were merged under Adequate. Section C consisted of 18 items designed to determine constraints to control measures for high standard of academic programmes in the universities with the response options "Strongly Agree" (4); "Agree" (3); "Disagree" (2) and "Strongly disagree" (1). The 18 items were clustered 8 into items. The responses options of "Strongly Agree" and "Agree" were merged under Agree while responses options of "Disagree" and "Strongly disagree" were merged under Disagree

The data collected were analysed using frequency counts, percentages, means, standard deviation and t-test. All the hypotheses formulated were tested at 0-05 level of significance.

3 Results

3.1 Compliance with Quality Assurance Measures

Scores of compliance with quality assurance measures for high standard of academic programmes were used to respond to research question one. The average scores under various control measures were computed and used to analyse the responses. The results are presented in Table 1.

Table 1: Compliance with Quality Assurance Measures

Items	ADEQUATE		INADEQUATE	
	Frequency	%	Frequency	%
Admission requirements	378	69	168	31
Funding	160	29	386	71
Physical facilities	134	25	412	75
Quality of academic staff	250	46	296	54
Quality academic programmes	380	69	166	31
Self appraisal	336	62	210	38.5
External monitoring	347	64	199	36
Mean	284	52	262	48

Table 1 revealed the extent of compliance with control measures on quality assurance for academic programmes in the South West Nigeria universities. Sixty nine percent of the respondents indicated that compliance with admission requirements was adequate while 29% considered funding as adequate. Twenty five percent of the respondents considered physical facilities as adequate with 46% indicating the quality of academic staff as adequate. Sixty nine percent of the respondents considered the quality of academic programmes as adequate with 62% indicating self appraisal as adequate. Sixty four percent of the respondents considered compliance with external monitoring as adequate.

The result shows that on the average, 52% of the respondents scored compliance with quality assurance measures as adequate. Generally compliance with quality assurance measures was adequate but inadequate on funding, physical facilities and quality of academic staff out of the seven categories of control measures under consideration.

3.2 Constraints to Quality Assurance Measures

Scores of constraints to quality assurance measures for high standard of academic programmes were used to respond to research question two. The

average scores under various control measures were computed and used to analyse the responses. The results are presented in Table 2.

Table 2: Constraints to Quality Assurance Measures

Items	AGREE		DISAGREE	
	Frequency	%	Frequency	%
Funding	457	84	89	16
Physical facilities	463	85	83	15
Lack of instructional aids	489	90	57	10
Inadequate library facilities	439	80	107	20
Personnel	338	62	208	38
Student crises	268	49	278	51
Political interference by Government	414	76	132	24
Administrative problems	311	57	235	43
Mean	430	79	116	21

Table 2 shows various constraints to control measures on the quality of academic programmes in South West Nigeria universities. Eighty four percent of the respondents agreed that funding was a constraint while 85% agreed that lack of physical facilities was a constraint. Ninety percent of the respondents agreed that lack of instructional aid was a constraint with 80% indicating library facilities as constraint. Sixty two percent of the respondents identified personnel as constraints while 49% indicated students' crises as constraint. Seven six percent of the respondents agreed that political interference from government was a problem with 57% agreeing that there were administrative problems.

The result reveals that on the average 79% of the respondents agreed that there were constraints to control measures on quality of academic programmes in South West Nigeria universities. The major constraints to control measures include funding, physical facilities, lack of instructional materials, inadequate library facilities, personnel and political interference from government. However, when these constraints are categorised, some disparities were noticed. Generally, all the respondents agreed that the universities were having constraints on quality assurance measures for academic programmes.

3.3 Testing of Hypotheses

Hypothesis 1: There is no significant difference between first and third generation universities in terms of compliance with quality assurance measures.

Table 3: Difference in Mean Scores on Compliance with Quality Assurance Measures between First and Third Generation Universities

Group	N	Mean	SD	Df	t cal	t table	Result
First generation	129	49.92	8.35	544	4.98		
Third Generation	417	46.11	7.38			1.96	Significant

$p<0.05$

Table 3 shows that t cal (4.98) is greater than t table (1.96). Hence, the null hypothesis is not accepted. Therefore, there is significant difference in the level of compliance with quality assurance measures for academic programmes in the first and third generation universities. The mean for first generation universities (49.92) is greater than the mean score of 46.11 recorded for third generation universities. This implies that that there is better compliance with control measures on high standard for academic programmes in first generation universities than third generation universities.

Hypothesis 2: Age of universities will not significantly influence constraints to quality assurance measures.

Table 4: Difference in Mean Scores on Constraints to Quality Assurance between First and Third Generation Universities

Group	N	Mean	SD	Df	t cal	t table
First Generation	129	78.31	13.27	544	6.55	
Third Generation	417	86.31	11.75			1.96

$p<0.05$

Table 2 shows that t cal (6.55) is greater than t table (1.96). The null hypothesis is not accepted. Therefore, there is significant difference in the constraints to quality assurance measures for academic programmes in the first and third generation universities. The mean score for first generation universities (78.31) is less than the mean score of (86.31) recorded for third generation universities. This implies that first generation universities faced lesser constraints on quality assurance measures for academic programmes than third generation universities.

4 Discussion

The result of hypothesis 1 indicated that there was significant difference between first and third generation universities in their compliance with quality assurance measures. The mean for first generation universities is higher than third generation universities. This implies that first generation universities exhibit greater compliance with quality assurance measures than third generation universities. This might not be unconnected with availability of enduring structures for quality assurance measures in first generation universities.

The implication of this is that the disparity in the extent of compliance with quality assurance measures could translate into variation in the quality of academic programmes offered by the two categories of universities in Nigeria. This in turn might lead to a situation where graduates from Nigerian universities exhibit different skills in the labour market. This could possibly lead to discrimination against graduates from the third generation universities in the labour market with its attendant negative image problems on third generation universities. This could impact negatively on the morale of undergraduates and graduates from the third generation universities. This supports Aminu (1986) and NUC (2006) about the poor performance of third generation universities comprising universities of technology and state universities. It also corroborates Efoghe (2000) that identified age of universities as one of the variables affecting quality of universities.

The result of hypothesis 2 revealed that there was significant difference between first and third generation universities on the constraints to quality assurance measures. Third generation universities have higher mean than first generation universities. The implication of this is that third generation universities are experiencing greater constraints to quality assurance measures than the first generation universities.

This might be due to the fact that third generation universities came into existence during the period of economic depression, unlike first generation universities that were established when universities were well funded and fewer in number. Thus the economic advantage of the first generation universities over their third generation counterparts could translate to lower constraints on quality assurance measures. The finding is supported by Adelabu (1992); Oguntoye and Alani (1998) and NUC (2006) that associated perceived decline in the quality of academic programmes in Nigerian universities to inadequate funding.

5 Conclusions and Recommendations

Age was a factor in the extent of compliance with quality assurance measures among South West Nigerian Universities. In addition age of universities made a difference in constraints to quality assurance measures among these universities. It is therefore recommended that third generation universities should be given special attention to eliminate the obvious disparity between them and first generation universities. Such special attention could be in the area of adequate funding and provision of physical facilities.

In addition, newly established universities must be assigned to designated older universities in the same geo-political zone for mentoring while greater collaboration in the area of peer review must encouraged in order to acquire best experience in quality assurance measures on academic programmes.

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Funding Higher Education in Uganda: Modalities, Challenges and Opportunities in the twenty-first Century

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Abstract. This century is faced with many challenges which require investment in higher education to provide a sense of direction. This research was undertaken to specifically identify the funding modalities, effectiveness, challenges and opportunities in Uganda. The research employed the qualitative approaches. The two commonest funding models are the public model and the market model. The challenges to funding higher education in Uganda include the increasing demand for primary and secondary education, among others. The major conclusion was that there has been a general decline in the funding of higher education over the last two decades. There has indeed been a widening gap between actual funding and ideal funding, with a serious impact on educational outcomes. However, it has been noted that Uganda has a lot of opportunities in this century to improve funding of its higher education. It is recommended that, among other initiatives, Uganda should encourage private funding of higher education.

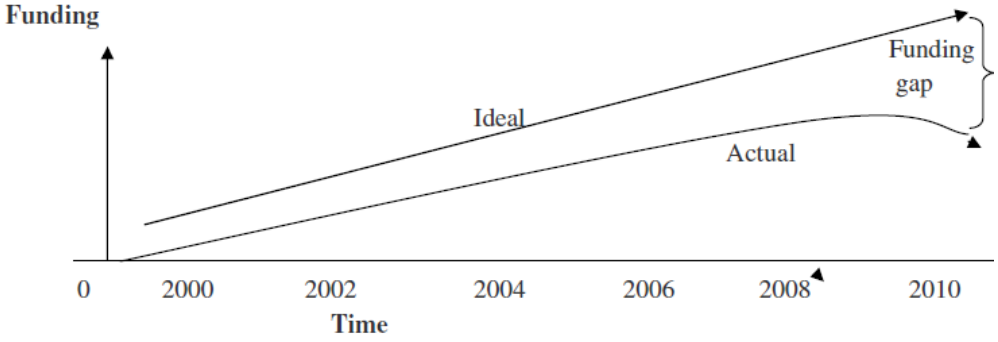
Keywords: Higher education funding, Reform, Quality assurance

1 Introduction

In this 21st century investment in higher education is one of the ways to offer a positive trend for humanity. In all countries, the education industry is one of the largest. Unlike most other industries, it is one where governments of all ideologies intervene pervasively (Appleton, 2001a). In industrialised countries, it is promoted partly for its perceived benefits in creating and utilising new technology – the engine of economic growth. In developing countries, it is generally seen as both economically productive and also as a dimension of development in itself. Appleton (2001a) reports that, despite its growing importance in economic debates, the post-World War II consensus that education is best funded and provided by the state has been increasingly challenged. In African nations in general, there is a general realisation that all is

not well with the higher education system. Adjustment is the battle cry everywhere (Obanyan, 1999). There is no doubt that education, including the higher education sub-sector, has to be adjusted along with the economy. What is open to debate is what forms such a process of adjustment should take (Obanyan, 1999). This study acknowledges that no meaningful adjustment can take place without talking about funding. Therefore, the aim of this study is to explore the funding of higher education in Uganda – its modalities, opportunities and prospects for this century.

The higher education system in Uganda comprises universities, national teachers' colleges, colleges of commerce and technology, and other schools and colleges, both private and public (Obwona & Ssewanyana, 2007). The duration of undergraduate courses ranges from two to five years. Individuals are admitted into these institutions after the completion of their secondary education or its equivalent. National and higher education sector-specific reforms implemented over the last three decades have had both positive and negative effects on the overall higher education sector (Obwona & Ssewanyana, 2007). First, the liberalisation reforms have encouraged the participation of the private sector. This explains the rapid expansion of higher education institutions since the 1990s. The number of universities has increased from three in 1997 to 24 in 2012, of which only 5 are public.[1] Second, government has shifted focus to primary education since 1997, when Universal Primary Education (UPE) was introduced, so government spending on higher education has reduced. In the early 1990s, less than 40 per cent of the education budget was allocated to basic/primary education; by 2002/3, more than 60 per cent of the budget went to this sub-sector. This suggests a declining trend of funding towards higher education (Figure 1).



[1] The five public universities in Uganda are: Gulu University, Makerere University, Mbarara University of Science and Technology, Busitema University and Kyambogo University.

Figure 1: Hypothetical funding gap in Uganda's higher education (2000 to 2010)

Figure 1 shows that the gap between the ideal and the actual funding situations appears to be increasing with every successive year. This study is thus undertaken to: a) establish the modalities of funding higher education; b) assess how effective these models have been; c) examine the challenges of funding higher education; and d) examine the opportunities for funding higher education. It is hoped that by focusing on these objectives, the study will help stakeholders to re-evaluate their commitment in respect of higher education.

2 Methodology

The study adopted a non-experimental, descriptive and exploratory design. It is descriptive as it describes situations and events in respect of higher education in Uganda. It is also explanatory in that it attempts to explain why certain actions/decisions are taken in this sector by the relevant authorities. This study used qualitative approaches of data collection and analysis. Data were obtained from relevant books and periodicals, government publications, statistical abstracts, the media and reports. The key search terms used were "higher education, Uganda". The search resulted in 89 appropriate citations, and out of these the 25 most relevant were extensively reviewed. The search results were limited to English only. The reference list of the benchmark literature was searched for other potential sources. The data sources were mainly from the Makerere University library hyperlink (http://www.mulib.mak.ac.ug) and included AGORA, Project MUSE, Ebsco, Jstor, Google Scholar, Proquest and PsychInfo.

The data collected were analysed using content analysis, which was conducted by the researcher using a manual decision support system. While using the system, the researcher highlighted each theme as it occurred in the raw data. Each highlighted segment theme was given a theme code and the theme code name was written in a data index, so that a record of the list of themes was kept. Thereafter, the highlighted segments were collated into separate files, so that each of them had a collection of quotes.

The validity and reliability of the data are enhanced by the fact that most of the citations reviewed were from credible sources such as the World Bank (2010), UNESCO (2011), including recent reports on Uganda's higher education such as the National Development Plan (NDP) (2010), and the National Council of Higher Education (NCHE) (2009). Empirical data from sources such as Obwona and Ssewanyana (2007) and Bloom, Cunning and Chan (2006) as well as prominent educationalists such as Ssempebwa (2007) and credible national newspapers, have all been useful.

3 Theoretical Perspectives on Funding Higher Education

There are two common models of funding higher education, at least in the context of African higher institutions – the public and the market-based models. All other forms lie along the continuum. In the public model, the funds come from the central government. This model allows the allocation of government funds to individual institutions in accordance with both the budget made available by government and with government's policy priorities (Pundy, 2003). Higher educational institutions can receive the following: a) block funds, which are undesignated amounts made available to each institution and consist of research, teaching and institutional factor funds (Pundy, 2003) and b) earmarked funds, which are designated for specific purposes. The components of these vary from country to country. For example, in Tanzania the government does not only finance public higher education institutions through subventions to cover recurrent and capital development budgets. It also finances tuition-dependent private higher education institutions through providing interest-free loans to cover tuition fee and related costs to students enrolled in private universities and those enrolled in privately sponsored programmes in public universities through the Higher Education Students' Loans Board (HESLB) and the Tanzania Education Authority (Ishengoma, 2008). The other challenge to this model in most African economies is the consistent deficit pattern between government revenue and expenditure due to donor dependence, leading educational institutions to consistently receive less funding than they request from government for both recurrent expenditure and capital development (Ishengoma, 2008).

The second, and increasingly popular, model is the liberalised or market model of funding of higher education (Lamptey, 1994). The market model advocated by Oketch (2003) and Lamptey (1994) stresses the injection of the market principles and market-driven approaches into the financing of higher education to make it completely self-financing. While Oketch views the market model of financing higher education in terms of financial diversification and partial privatisation of public universities, Lamptey advocates the adoption of the contemporary marketing concepts of product, price, place and promotion (the 4 Ps) in higher education. The market model for financing public higher education in Africa is justified when we consider the higher education sector to be composed of market segments and therefore as having the possibility to be marketed using an effective marketing mix through opening up dialogue with potential markets ready to finance higher education because they are beneficiaries and consumers of higher education products (Ishengoma, 2008). While the market model of financing higher education has been criticised and branded as academic capitalism driving universities into entrepreneurial competition (Levidow, 1998), if cautiously adapted it can turn around the

finances of government and donor-dependent public higher education institutions.

Ssempebwa (2007) states that higher education liberalisation is expressible on a continuum with each of the two at either end, meaning that higher education funding is a function of government, the market or both, depending on the extent of its liberalisation. Lipsey *et al.* (1999, as cited in Ssempebwa, 2007), however, asserts that both government and the market are fallible. This fallibility, too, is expressible on a continuum, with success and failure at either end. Plotted against each other – on an X, Y graph – these continuums reveal government-market (X, Y) combinations that assure adequate funding and, conversely, those associated with underfunding, providing us with a framework, delineated in Figure 2, within which the irony of underfunding despite liberalisation might be understood.

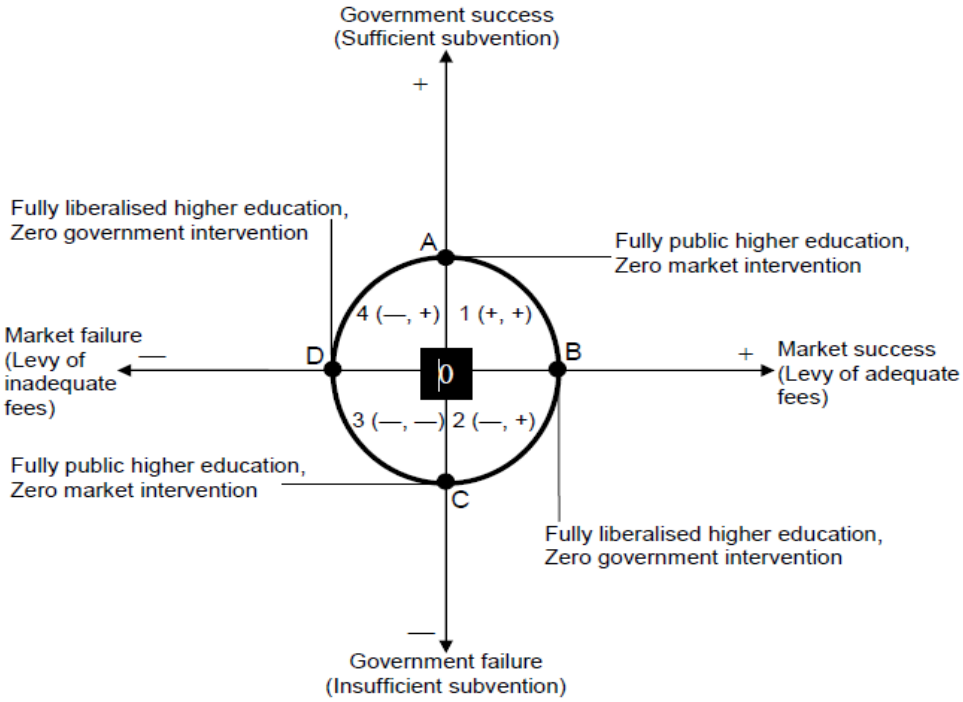


Figure 2: Degree of higher education liberalisation and adequacy of funding
Source: Ssempebwa (2007)

In the model, the conventional X, Y coordinate is utilised. Positive and negative sections respectively represent adequate and inadequate funding. The circle, conceptualised as the "liberalisation curve", shows the adequacy of funding as we move between government and market-based higher education. Along the

curve the points A, B, C and D are salient. At A higher education is completely public and adequately funded through government subvention. At B, higher education is completely market-based and is adequately funded through the levying of fees. Along AB, quadrant 1, therefore, all government intervention is successful (+) and all market basis is successful (+) hence any mix of government intervention and market basis ensures adequate funding (+, +). Along BC, CD and DA, quadrants 2, 3 and 4 show the cases of inadequate funding, depending on the mix of the two models.

The author agrees with Lepori (2007) that the choice between allocation models is essentially a political choice regarding the goals to be achieved and the wished configuration of the higher education system, for example between the efficient use of public means, the development of research, the quality of education and, finally, access to education. Accordingly, the prospects for increasing or improving funding remain open, as the higher educational learning contexts change with changes in demographics, and with new political and economic developments and alignments, including the global imperatives. The main concepts in the study are illustrated in Figure 3.

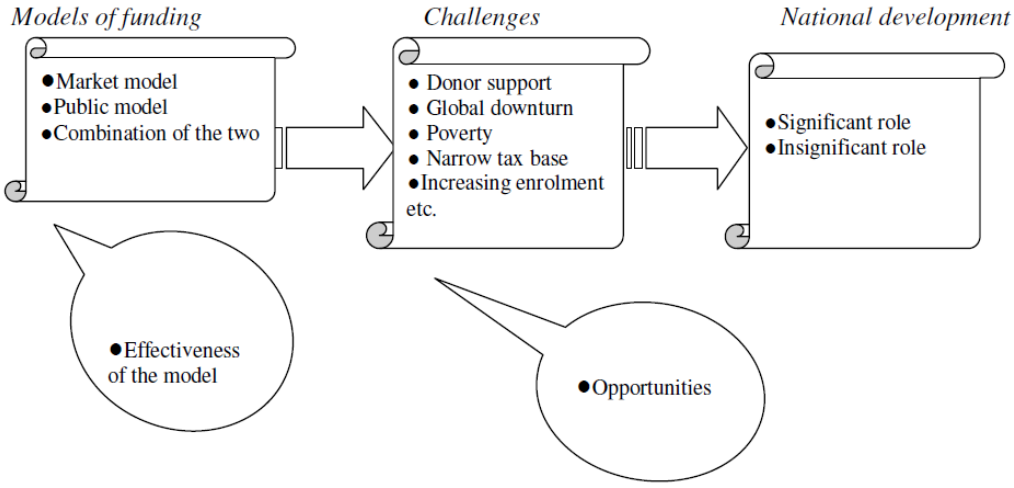


Figure 3: Dynamics of Higher Education Funding

The conceptual framework above depicts the main concepts that emerge from the theory in this current research. The concepts are embedded in the models, effectiveness, challenges and opportunities for funding. The figure suggests that for higher education to contribute to national development, it must be implemented within some models – public, market or a combination thereof. The effectiveness of the model applied has a great bearing on the educational outcomes. Implementing any of the models in higher education delivery involves challenges and opportunities.

4 Literature Review

4.1 Models of Financing Higher Education in SSA

The World Education Forum, held in Dakar, Senegal in 2000 proved to be a momentous occasion. The international community formally pledged that "no country shall be thwarted from meeting the [Education for All (EFA)] goals due to lack of resources" (UNESCO, 2011). Since then, national governments, international organisations and various stakeholders have been seeking to address the gap in resources which are required to reach these goals (UNESCO, 2011). Accordingly, various models have been attempted to address the gap, including in Uganda, with different levels of effectiveness and with different challenges.

The two major sources of higher education funding in sub-Saharan Africa (SSA) have been government and households. In most countries, education is largely financed by the government. However, the inadequacy of public resources has proven to be a serious constraint on the public provision of educational services. Many SSA countries have a relatively weak public resource collection capacity, and this also affects resource allocation for education. Many SSA countries find it very difficult to raise public revenue because of macroeconomic and growth instability, high debt ratios, weak tax administration and large informal sectors. Resource-rich SSA countries exhibit relatively strong revenue collection performance, yet domestically generated revenue for many countries is less than 20 per cent of GDP (UNESCO, 2011).

Despite increased governmental and international aid funding towards the education sector under the auspices of the MDGs, funding towards higher education is not being prioritised (UNESCO, 2011; AfDB & OECD, 2009).

4.2 Challenges of Funding Higher Education in SSA

The challenges of funding higher education, at least in developing countries, hinge on the following: a) the increased social demand to expand post-primary education; b) the recent global economic downturn; c) and changes in donors' priorities and behaviours (Hinchliffe, 2010), among others.

4.2.1 Increased Social Demand for Primary and Secondary Education

Many reforms have been implemented in the education systems of SSA of late. At the primary level, for example, school fees have been abolished by many governments, including in Kenya, Tanzania, Malawi, Ghana, Ethiopia and Mozambique (Hinchliffe, 2010). The universal surge in enrolments following abolition of fees has led to a requirement for a rapid expansion of public funding for new classrooms and teachers and for grants to schools to

compensate for the lost fee income. Following these reforms, the Gross Enrolment Ratios (GER) (%) in SSA have witnessed marked changes in all the three levels between 1999 and 2007: in the primary from 78 to 99; in the secondary from 24 to 34; and in the tertiary from 4 to 6. Statistics show that as a response to this state of affairs, most SSA governments have allocated primary education the largest share of the education budgets, though the average fell from 49 per cent to 45 per cent between 1999/2000 and 2005/6 (Hinchliffe, 2010). According to the same source, the share was 55 per cent and over in countries such as Burkina Faso, Ethiopia, Madagascar, Niger, the United Republic of Tanzania and Zimbabwe. Available data for 2007 suggests that for 28 SSA countries, the average share of total education expenditure allocated to secondary education was 28 per cent (UNESCO, 2010). While the last 15 years witnessed tripling of enrolment in higher education, the funding allocation has not been at par with this trend. For example, over the same period, the continent allocated an estimated 0.78 per cent of its GDP to higher education. In the poorest part of Africa, the share dropped to 0.63 per cent (World Bank, 2010).

4.2.2 Global Economic Downturn

Parallel to changes in the social demand for education, the main challenge to future levels of public expenditure on education generally are increases in GDP and the ability of governments to capture part of those increases for overall public expenditures. In 2007, the year preceding the beginning of the recent global economic recession, GDP across SSA rose by 7.0 per cent, with many countries in most sub-regions recording high rates (IMF, 2009). In 2008, the growth rate decreased to 5.5 per cent as a result of the recession intervening during the second half of the year, and for 2009 the growth rate fell to just 2.0 per cent. The impact has been felt most strongly in those countries most closely connected to global financial and commodity markets – such as South Africa, Angola, Nigeria and Botswana. Such an economic crisis slows down the growth of the economy, including limiting the budget for higher education.

4.2.3 Donor aid and Behaviours

Globally, the share of aid which goes to education has remained close to 10 per cent since 2000 (UNESCO, 2010). According to the same source, between 2000 and 2004, aid commitments for education increased by 58 per cent but were then constant through to 2007. SSA is the largest regional recipient of aid for education, receiving 34 per cent of the total in 1999 and 30 per cent in 2007. However, the distribution of aid across the different levels differs considerably within this group of donors, with France and Germany in particular focusing on post-secondary education and the International Development Association

(IDA), The Netherlands, the United Kingdom and the United States giving greater priority to basic education. Several of the smaller donors give high priority to education – over 20 per cent of total aid from Australia, New Zealand, Greece and Portugal goes to education – and to basic education, in particular, which receives over 50 per cent of the education aid budget of Canada, Denmark, Finland, Ireland, New Zealand, Norway, Spain and Sweden (Hinchliffe, 2010). It can be observed that the decline in donor aid and behaviours does not favour setting up effective higher education systems.

4.2.4 Trends in Enrolment

The World Bank (2010) states that the demand for higher education has expanded significantly on the African continent as a whole and that African institutions have responded by admitting greater numbers of students each year. Between 2000 and 2006, the total number of students increased from 6.0 million to 9.3 million. This can be compared to the 1994-2000 period, in which 2.5 million new students registered. A projection of the recent trends in individual countries suggests that the entire continent will have between 18 million and 20 million students by 2015 (World Bank, 2010). Because the projection is based on the most recent expansion rates identified in the countries concerned, these numbers are likely to be attained. In other words, by 2015 and at the current rate of expansion, the African continent is expected to have twice as many students as in 2006. This projection is conservative in that it underestimates the possible expansion of secondary education in conjunction with the strong demographic pressure that the continent is experiencing. As a result, the gross access rate at the end of upper secondary education in Africa has more than doubled since 1990, increasing from 9 per cent in 1991 to 19 per cent in 2005 (UNESCO, BREDA, 2005, 2007). The access rate, however, varies considerably from country to country. In approximately 10 countries, the number of students in higher education in 2015 will be at least triple the current level. In approximately 20 countries, the number of students is expected to increase by a factor of between 2 and 3, compared to the 2006 level (World Bank, 2010). For the remaining group of approximately 20 countries, that factor is expected to be less than 2. The demographic pressure is due to the 2.4 per cent population growth rate (Nomura & Wolff, 2010). In any case, the increasing numbers of students are an obvious challenge to African countries, which are already constrained by weak infrastructure, poorly paid lecturers and poor-quality educational service.

4.2.5 Narrow tax base

The narrow tax base is a critical factor in the funding of higher education in Africa, even as enrolment soars. The narrow tax base of most African countries

translates into more limited availability of public resources. According to the World Bank (2010), the public revenue for African countries in recent years has amounted to only 18 per cent of GDP compared to 29 per cent in the continent's middle-income countries. Accordingly, the predicted cumulative financing gap expected for the period 2004–15 would amount to US$6.75 billion for the 27 countries studied by the World Bank, corresponding to an average annual gap of US$613 million. This is only a "virtual" gap. Indeed, under current budgetary trade-offs in favour of higher education and the share of the private sector in higher education enrolment, there will be an adjustment in the level of unit costs. The current expected amount of resources that could be mobilised suggests that unit costs should "progressively" reach half of their current level by 2015 (World Bank, 2010). This simple scenario shows that maintaining the current rates of expansion of higher education will be enormously challenging for most African countries. The aforementioned sizable increase in the number of students would lead to a cumulative level of current expenditure 75 per cent higher than the volume of public resources that may be mobilised. This financing gap would gradually widen at the rate of expansion of the systems themselves.

4.2.6 Poverty

Governments are usually the main funders of education in SSA, but they are not the only source. Government funding is often complemented by inputs from external partners, students and households, and private entities. Private financing can complement government funding in public education institutions and it can also finance private schools. The largest proportion of private funding for education in SSA comes from households – students, families, individuals and community inputs. Their contribution to total education expenditure is around 25 per cent (Nomura & Wolff, 2010). This proportion from families comprises: registration or tuition fees for public institutions; dues or contributions to parents' associations; tuition fees for private institutions; and direct spending on textbooks, school supplies and uniforms associated with attending school (Peano, 2010). However, this proportion decreases to 22 per cent in tertiary education, implying a very large government contribution to this level. With high levels of poverty among households in many countries, it is unlikely that households in most African states will continue to effectively fund higher education.

4.3 Funding Opportunities for SSA

In the available literature, the measures generally recommended by many aid agencies and economists are aimed at either the use of existing resources

through the modification of the parameters for producing an education service, improvement in the administration and management of the system, or recourse to new sources of funding.

4.3.1 Mobilisation of Household Resources

While the motivation and modalities of their involvement vary, it is well documented that the growing role of private contributors brings a new opportunity for education financing in SSA (Nomura & Wolff, 2010). Household resources can be mobilised from parents, extended families and students. Currently, the share contributed by households varies widely, from less than 10 per cent in Mali, Chad, and the Republic of Congo to about 60 per cent in Guinea-Bissau (World Bank, 2010). The Guinea-Bissau's example shows that there is still potential for other countries. However, governments need to provide a framework to regulate and monitor the household resources so that they coincide with national development goals.

4.3.2 Development of Private Higher Education Sector

Private higher education has experienced spectacular growth in Africa. In 2006, it accounted for 22 per cent of higher education students on the continent (World Bank, 2010). This expansion occurred in response to excess and differentiated social demand (Varghese, 2004). Generally speaking, private higher education institutions endeavour to grow by offering training courses that are different from those available in the public sector and by organising short vocational courses in disciplines requiring limited technological equipment to keep prices attractive. The appeal of such institutions depends largely on their capacity to adapt and respond to labour market needs and trends, thereby enhancing students' employability. The development of the private higher education sector is an opportunity which offers an alternative to the public sector which could be limited by space and funds.

4.3.3 Student Financial Assistance

Giving financial assistance where it is not yet operational is yet another opportunity. Financial assistance policies are already a critical component of cost-sharing policies in Africa (World Bank, 2010). The same source reports that it is mainly in the Francophone countries (with some exceptions) that all students receive financial assistance, in the form of fees waiver, coupled with grants for living expenses. However, the same source warns that means-tested financial assistance based on some criteria, such as parental income and student loans, saves the process from abuse.

4.3.4 Loans

This is one of the prospects of funding higher education where the programme has not been implemented before. It can help, for example, privately sponsored students to cover tuition fees. The concept of student loans has existed in Africa for more than 50 years, with loan programmes having been proposed as early as 1952 in Lesotho and 1966 in Botswana (World Bank, 2010). The first full-fledged loan programmes were introduced in Nigeria in 1973 and Kenya in 1974 (Woodhall, 1991). From 2008, at least 13 African countries have had operational loan programmes, and several more, including Burundi, Mauritius, and Mozambique, are considering establishing programmes (World Bank, 2010). The success of these loans must be measured not only by whether they meet their specific programme objectives, but also by whether they are financially sustainable (Ziderman, 2004). A loan's political acceptability is also critical for its long-term survival (World Bank, 2010). However, the greatest challenge of loans management is the difficulty of recovery and ensuring financial sustainability (World Bank, 2010). The improvement of the efficiency and sustainability of student loan programmes also offers a huge potential in improving funding of higher education.

4.3.5 Donor aid

External assistance to higher education in SSA still presents a huge opportunity for funding this sector. Over the period 2002–06, external donors allocated about US$600 million annually to higher education in SSA (World Bank, 2010). Most bilateral and multilateral donors contributed to financing higher education in Africa. The aid is either in the form of direct or indirect assistance.[2] Unfortunately, according to the same source, less than 30 per cent of this amount directly benefited African universities. Most of the balance never made it to SSA since it was primarily spent at the donors' universities to compensate them for the cost of educating African students. This imbalance in aid to higher education certainly limits its impact and makes its current allocation questionable. Two things need to be done to improve on this donor aid: a) Donors need to ensure that the share of aid that directly supports the

[2]Indirect support occasionally takes the form of scholarships, but most often the amount of aid is determined by imputing the cost of educating these students in foreign universities. Direct aid to higher education supports universities and research centres in implementing their research and teaching programmes. It can take the form of supply of equipment (IT, books), building of infrastructure, or financing of technical assistance to develop programmes and curricula (World Bank, 2010).

development of higher education systems in SSA increases significantly. b) Clear national strategies in favour of higher education would certainly increase the likelihood of donor support (World Bank, 2010).

4.3.6 Foundation support

The World Bank (2010) asserts that in addition to bilateral donors, foundations have played a growing role in financing higher education in Africa. Since 2000, seven American foundations (namely the Ford, Carnegie, Rockefeller, MacArthur, Hewlett, Mellon, and Kresge foundations), besides the Partnership for Higher Education in Africa, have made significant investments in African universities. Between 2000 and 2008, the partnership foundations contributed an aggregate of US$354 million towards higher education initiatives in Ghana, Kenya, Nigeria, Mozambique, South Africa, and Tanzania and on an Africa-wide basis (World Bank, 2010). The most significant focus of the partnership has been the development of universities' physical infrastructure and human and organisational capacity. Information technologies and connectivity to the Internet are at the core of these efforts, with investments to date amounting to more than US$30 million. Outcomes from partners' investments range from more and cheaper Internet bandwidth for universities and the establishment of research and training networks in the sciences and social sciences to the launch of a new Internet gateway for the collection and dissemination of research. According to the same source, examples of South-South cooperation are also growing. In 2001, the Aga Khan Foundation supported the creation of the Advanced Nursing Studies Programme in Kenya and Tanzania. The aim was to provide relevant, accessible, affordable, and needs-based training programmes for nurses and midwives. There is no doubt that foundations offer a huge opportunity for sponsoring higher education in general. Attempts should, however, be made to make use of local or indigenous foundations where they exist in order to reap the benefits of proximity.

4.3.7 Diversification of Institutional Resources

Diversification of financial sources is an opportunity that can still be exploited by many higher education institutions. Diversified financing implies that higher education institutions are capable of generating their own resources. Institutions may generate considerable financial resources by offering attractive vocational education programmes whose costs candidates are willing to share provided that they are certain of employment upon completion of training. Institutions may also develop continuing education programmes (whether or not leading to a degree) in which enterprises or individuals are ready to invest. Lastly, they may provide expert or research services. Many universities in Africa are developing these kinds of activities (World Bank, 2010). Higher education

institutions should have sufficient autonomy to develop income-generating activities. They should manage their own budget and use the resources they generate in accordance with their development objectives. Moreover, incentive measures are necessary to mobilise both the actors operating the services in question and the institution. With this aim in view, bases of apportionment should be drawn up for a balanced and equitable redistribution of the resources generated, to the benefit of the university community as a whole. For instance, the University of Parakou in Benin has decided to redistribute revenue from education activities as follows: 60 per cent to the income-generating unit, 15 per cent to the university's general administration, 5 per cent to research, 5 per cent to the central university library, and 5 per cent to the library of the income-generating unit (World Bank, 2010).

4.3.8 Streamlining Students' Support Services

This offers another opportunity for improving the funding of higher education. This involves cutting down on mainly social support systems such as government scholarships to universities abroad or limiting scholarships to programmes that are key to national development so as to free up money for core budget items. The criteria for allocating direct financial assistance should also be in line with equity or efficiency goals. Unfortunately, in much of SSA, these criteria fail to target the neediest students (World Bank, 2010). Worst of all, grant and scholarship legislation in SSA often does not provide for limits on the number of beneficiaries because such facilities are allocated according to academic criteria rather than the number of places available at the universities. If support services are to be efficient, the rules governing scholarships must be clear and strictly followed to avoid budget overruns. The World Bank (2010) provides two rules for avoiding overruns: First, defining annual allocation quotas for scholarships and grants by type of institution, discipline, and year of study, as a function of government priorities and available budget resources; defining allocation criteria that, depending on established allocation policy, include parameters such as academic achievement, age, gender, and family situation; weighting each criterion and establish a ranking of candidates each year. Second, having an impartial and recognised commission allocate grants and scholarships on the basis of the candidates' ranking and the applicable quotas, have scholarships and grants allocated for one academic year, and ensure that every year the number of beneficiaries is a function of the respective annual budget. Scholarships abroad should be limited strictly to studies of essential relevance to national development. If a limit is placed on such scholarships, the resulting savings may be used to build and offer quality local education (World Bank, 2010).

From the literature section there are areas of common experience in terms of models, challenges and opportunities which Uganda could learn from as examined in the following sections.

5 Findings

The total number of higher education institutions in Uganda in 2006/7 was 145, up from 139 in 2005/6. The total enrolment was 154, 023, representing a 12.3 per cent increase from the 137,190 students in 2005/6 (NCHE, 2009). The same source indicates that enrolment in all universities, both public and private, including affiliated colleges, was 107,728 or 69.5 per cent in all higher institutions. This has already surpassed the government's long-term plan for tertiary education of raising the student numbers to 126,396 by 2015, of whom half should be at the universities and half female (MoES, 2004). Just as in other countries, funding of higher education covers many activities such as research, fees, institutional development and technology innovation transfers.

5.1 Modalities of Funding

Uganda is pursuing private sector-led economic growth. Like in many higher education institutions in Africa, the private-public models are dominant in funding higher education in Uganda. In the five public universities in Uganda, both models operate side by side while purely private funding operates in private institutions. At Makerere University, the oldest and main public university, government financing is maintained for a limited number of students and a private entry scheme, introduced in 1992, covers the remaining demand. Public financing remains for government-sponsored students and only one out of four students in public universities is sponsored by government (World Bank, 2010). In Uganda, public funds for each higher education institution are provided in three blocks: one for baseline salaries, one for development costs, and one for operating expenditure (based on a set amount per student per day and intended to cover mainly food and housing for students) (World Bank, 2010). There has been a steady decline in public expenditure on higher education, from 12.13 per cent in 1997/8 to 8.42 per cent in 2003/4 (Obwona & Ssewanyana, 2007).

The private universities rely exclusively on tuition fees received from students and other well-wishers.[3] The private source can be any one of these: parents, students, donors or the business sector. Given that there are more private institutions than public and the decreasing level of funding of public institutions, it is obvious that the greatest source of funding higher education remains private. The well-wishers are both foreign and domestic. Reliance on well-wishers has always been a source of problems in cases where funds do not come in time. Generally, the introduction of privately sponsored programmes, especially in public universities, has helped to reduce the funding gaps. Uganda's Makerere University has also improved its financial situation. By encouraging privately sponsored students – 70 per cent of students now pay fees – and commercialising service units, it has reduced its dependence on state funds and generates 30 per cent of its running costs (Bloom, Cunning & Chan, 2006). However, many people believe that the introduction of these programmes has opened the gates to university education to all manner of people who can afford it, regardless of their ability, thus impacting negatively on the quality of education.

Because the public universities do not obtain sufficient funds from both the students and the government, they are being encouraged to generate resources of their own and because of this they are making several innovations. For example, Makerere University hires out its facilities to the public – transport, halls etc. – as deemed appropriate. Consultancies and research work are also taxed and the money used in the unit responsible to support its budgets.

Collaboration and networking have helped universities to support various programmes.[4] For example, under the Areas Global TB Vaccination Foundation, the European and Developing Countries Clinical Trials Partnership (EDCTP), the Infectious Diseases Institute (IDI) and the Makerere University College of Health Sciences, through the Department of Microbiology, have started work to evaluate various TB vaccines. The Word Bank has given the College of Health Sciences US$ 10 million to establish centre-of-excellence laboratories in Mbale, Gulu, Mbarara and Arua. The Rockefeller Foundation supports many programmes at Makerere. The Welcome Trust, a UK charity organisation, is working with the College of Health Sciences to pioneer the treatment of drug-resistant TB. For example, it has just invested US$ 300,000 in the Faculty of Computing and Informatics Technology at Makerere to help

[3] Some of the prominent private universities in Uganda are: Kampala International University, Ndejje University, Bugema, St Lawrence University, and Uganda Martyrs University.

[4] http://www.mak.ac.ug/index.php?searchword=+Donars+to+makerere+&option=com_search&Itemid=5 for more details.

set up a national software incubation centre (NSIC). The Carnegie Corporation of New York, the Swedish International Development Agency (SIDA) and the Norwegian Development Agency (NORAD) are providing support to Makerere University's capacity-building initiatives. These are some of the key supplementary funding support initiatives to higher education in Uganda. Many such support initiatives are available, not only for Makerere but also for other public and private tertiary institutions and universities. The levels of support, however, do vary. All these indicate that funding of higher education in Uganda is no longer dominated by the government.

Some private institutions give bursaries to their students. Kampala International University, for example, pays bursaries to their students, which normally covers 50 per cent of tuition fees (*The New Vision,* 2011, July 11). The newly opened Fairland University planned to give 700 bursaries to students from different kingdoms and chiefdoms in Uganda when they started their first semester in August 2011.[5] The bursaries are expected to target bright but poor students from peasant families countrywide. Apart from being inadequate, bursaries can be abused to the extent that the rightful beneficiaries may miss out on them. Moreover, they can be programme-specific, thus not all students are potential candidates for accessing them. For example, at Fairland University, the scheme is accessible to applicants for Information Technology, Mass Communication, Business Administration, Education, Development Studies, Public Administration and Counselling and Guidance (*Daily Monitor*, 2011, June 8).

5.2 Effectiveness of the Funding Modalities

To gauge the effectiveness of the funding modalities in higher education institutions in Uganda, we have to first understand the cardinal goals and objectives of higher education. At national level, Uganda's vision, mission, and goals are set out in *The Strategic Plan for Higher Education 2003-2015*, which lists a number of themes including "…enhancing quality and access, efficiency and effective higher education based on reformed financing for higher education, improving governance in higher education and prevention of HIV/AIDS" (MoES, 2004, pp. 4-5). For purposes of illustration, let us look at a few of the implications of these goals (MoES, 2004):[6]

[5]Source: http://allafrica.com/stories/201106272099.html.

[6] Contained in Fred, M. Hayward (2004) paper entitled "Making the Case for Higher Education Support" that resulted from a series of presentations to workshops supported by the National

- Greater budget support from the government and other stakeholders to rehabilitate, construct, and improve facilities so that tertiary education can grow from approximately 80,000 students to 126,396 by 2015.
- Funding to expand ICT equipment, capacity, curriculum and staffing.
- Establishing a salary package based on staff training.
- Setting up a research fund at each institution that constitutes 3-5 per cent of the wage bill.
- Providing quality higher education accessible to all qualified Ugandans by 2015.
- Improving access for students from poor families.
- Improving gender equity with a target of 51 per cent women by 2015.

This is a small sample of the very impressive list of goals from the Strategic Plan. Added to these are the creation of knowledge societies and national and regional development. All of these require resources from some sources – government, students, parents, donors and business. Each requires substantial changes at colleges and universities, in funding, and in some cases the method of funding. The question is how effectively have these goals been pursued?

Though the number of students at Makerere University has been increasing steadily, the financing in the university budget has changed profoundly. For example, between 1997 and 2006 the number of students multiplied by 2.4, increasing from 14,400 to 34,500, and during the same period the share of private financing in the university budget grew from 30-60 per cent (World Bank, 2010). The public and private resources per student have decreased by 10 per cent since 1997. According to the same source, the average public resources per student have generally decreased by 50 per cent since then. Poor funding has made universities sink into debt. As of financial year 2005/6, Makerere University had an accumulated deficit bill of USh15.4b for salaries, bandwidth, utilities, statutory obligations etc. (*The New Vision,* 2011, July 11). According to the same source, at Makerere the expected total accumulated deficit for the year 2006/07 was USh 63.7b. Kyambogo University had accumulated salary arrears of USh 2b and was expected to register a deficit of USh 3.8b in 2008/9. Gulu University registered USh 2b in deficits in 2007/8. The new Busitema University was burdened with a funding gap of USh 2.4b in 2008/9. The former State Minister for Higher Education, Rukutana Mwesigwa, while speaking at the handover of his office to the new minister early in June 2011, admitted that

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Council of Higher Education, Uganda, the Carnegie Corporation, Ford Foundation, and USAID, 20 October 20.

the higher institutions of learning are terribly underfunded.[7] Studies show that the contribution of government to public universities has averaged only 0.3 per cent as a percentage of GDP, compared to Kenya 0.9 per cent and Tanzania about 1.0 per cent as a percentage of GDP in the same period (*The New Vision*, 2011 July 11). The same source reports that at most Ugandan universities, students pay about 30 per cent to 40 per cent of the unit cost of the programmes for which they are registered.

It is widely believed that university education in Uganda is hanging by a thread as a result of compromises over the quality of education and the range of academic programmes offered, all because of insufficient funding. Shortened school practices, congested lecture rooms, food rationing in university kitchens and reduced allowances, are just a small part of what goes on in Uganda's universities (*The New Vision*, 2011 July 11).). Paying lecturers low salaries, hiring inadequate staff, failure to expand and ignoring staff development plans are just part of what universities are going through as they attempt to keep afloat in the face of low funding. Government institutions, with decreasing government budget allocations, deteriorating infrastructure, decreasing ability to purchase inputs and increasing student numbers, are unlikely to provide quality higher education for a sustainable period in the future. Other results of the financial crisis are mismanagement and brain drain (*The New Vision*, 2011 July 11). Charging of tuition is also a barrier for talented students from lower socioeconomic backgrounds to join higher education institutions. This perpetuates inequalities, both spatially and by gender. Despite the existence of appropriate laws, discrimination against women is rife and the situation of Ugandan women is further aggravated by deeply rooted patriarchal traditions and years of armed conflict.[8] HIV/AIDS prevalence stands at 6.5 per cent among adults and 0.7 per cent among children. Though this is much lower than the 29 per cent rate in urban areas in the 1980s at the peak of the epidemic, it is feared that the current rate is rising after a sharp decline in the 1990s.[9]

Because of declining support from government and a still low proportion of funding from the private sector, funding outcomes such as rehabilitation, quality, access, equity, construction and improving facilities cannot be effectively attained. It is no surprise that the quality of higher education and

[7]Source: http://allafrica.com/stories/printable/201106130967.html .

[8] Generally family code, physical integrity. Ownership rights and civil liberties are areas where women are most discriminated against. (http://genderindex.org/country/uganda.

[9] The majority of the HIV/AIDS victims today are women and the increasing prevalence rate is partly due to complacency among the population. Visit (http://www.avert.org/aids-uganda.htm for more details.

training in Uganda is worryingly declining (NCHE, 2009). The indefinite closure of Makerere University on 2 September 2011 over the lecturers' demand for a pay rise and the USh 16.7 billion[10] pension due to them from National Insurance Corporation best illustrates the plight and dilemma of higher education institutions in Uganda.

6 Challenges of funding higher education in Uganda

6.1 Increasing demand for primary and secondary education

The introduction of UPE in 1997 significantly increased access to primary education as total enrolment tripled from about 2.7 million in 1996 to 8.2 million in 2009. The GER reduced from 128 per cent in 2000 (132 per cent for boys, 124 per cent for girls) to 115.1 per cent in 2009 (118.1 per cent for boys, 112.1 per cent for girls). A significant number of teachers have also been trained and recruited. The number of qualified teachers has more than doubled from 74,000 (1995) to 158,110 (2009). Between 2000 and 2005, the average pupil-books ratio is reported to have increased from 4:1 to 2:1 (NDP, 2010).
According to the same source, the introduction of Universal Secondary Education (USE) in 2007 increased secondary school enrolment (S1-S6) by 30 per cent from 814, 087 in 2006 to 1,165,355 in 2009. As a result of USE, the GER improved to 29 per cent, the Net Enrolment Ratio (NER) to 24 per cent in 2008 and the Gross Intake Rate (GIR) for S1 to 33.3 per cent in 2008. The improvement of the GIR increased the proportion of S1 in the total enrolment to 29 per cent. In addition, the transition rates from P7 to S1 have increased since the introduction of USE. The trend is observed in the transition rates from S4 to S5 between 2005 (39 per cent) and 2009 (48 per cent). The number of classrooms constructed for secondary schools also increased from approximately 14,760 in 2005 to about 33,512 in 2009.

In the 2010/11 financial year, the government achieved the following in the secondary sector (*Daily Monitor,* 2011, June 8): it provided funds to complete and equip some technical institutions; it established fully equipped ICT laboratories in nine traditional secondary schools; it constructed five seed

[10] The dollar rate has fluctuated sharply from USh 1,645 per dollar in September 2008, to USh 2,050 per dollar in July 2009 to USh 2, 823 in August 2011 http://bloomberg.co, news.

secondary schools; and it rehabilitated, expanded and re-equipped five existing traditional secondary schools.

The above positive trend and commitment on the part of government shows that primary and secondary education consumes a high proportion of the education budget. This had consistently been the trend in previous budgets. For example, in the 2008/9 budget, USh 899.3 billion was allocated to education, of which USh 417 billion went to the primary level, USh 165.8 billion went to secondary and the remaining USh 316.5 billion (35 per cent) went to all the public universities (MoFPED, 2008). In the 2011/12 financial year, out of the USh 115.9 billion allocated to education, a great proportion was allocated to maintain and consolidate the success of UPE and USE (*Daily Monitor*, 2011, June 8).). The increasing demand for pre-university education and government commitment to it provides a great challenge for funding higher education.

6.2 Global Economic Downturn and Trade Deficit

The recent economic downturn posed one of the greatest challenges to financing education. It negatively affected investments through reduced remittances, foreign investment and loans (NDP, 2010). Foreign direct investment dropped from 5.3 per cent of GDP in 2007/8 to 4.6 per cent GDP in 2008/9 (NDP 2010). The global crunch affected Uganda's economy in four critical ways (Omona, 2010). First, export demand for Uganda's goods fell on the world market and commodity prices plummeted. Second, there was reduced private capital inflow as investors became more cautious. Third, economic growth prospects slowed down throughout the region and stagnated globally. Fourth, there were reduced remittances from Ugandans abroad. For example *The New Vision* (2009, July 12), reported that remittances fell by 47 per cent to US$ 267.3 million in July-December compared to the same period in 2007/8. The continued depreciation of the Ugandan shilling reflects increased demand in the face of weak export performance that has not fully recovered from the downturn (*Daily Monitor*, 2011, June 8). Uganda's trade deficit has been widening despite improvements in the composition and value of exports. The trade deficit as a percentage of GDP declined from an annual average of 12.9 per cent for the period 2000/01 to 2003/2004 to 13.5 per cent for the period 2004/2005 to 2007/2008. The balance of payments has also been unfavourable, with a deteriorating trend in recent years. These results could partly be due to lower demand for Uganda's exports in advanced economies. Table 1 shows the worrying trend, though the regional trend offers some comfort.

Table 1: Percentage share in export by region of destination

Region	2003	2004	2005	2006	2007
COMESA	27.7	26.8	30.7	29.5	37.9
Other Africa	8.6	5.7	4.8	3.9	6.6
EU	26.3	27.3	31.1	27.4	24.3
Other Europe	14.8	17.1	10.1	5.1	6.8
North America	2.7	2.9	2.3	1.7	1.8
Middle East	3.5	5.6	10.8	20.6	14.3
Asia	9.3	8.9	7.5	7.8	5.4
South America	.1	.1	.1	.1	.2
Rest of the world	.4	.1	0	0	0
Unknown region	6.6	2.5	2.5	3.8	2.8

Source: NDP (2010)

This downturn has had a serious impact on the economy. The most indirect impact on higher education is that it is affecting the government budget for this sub-sector.

6.3 Donor Aid and Behaviours

Uganda's position on Official Development Assistance (ODA) is spelt out in the partnership principles between government and its development partners of 2003 (NDP, 2010). In addition, Uganda and its main development partners (DPs) are signatories to the Paris Declaration on Aid Effectiveness (2005) and the Accra Agenda for Action (2008). ODA provided by partner governments and international organisations to Uganda has played an important role in the country's recovery, growth and poverty eradication efforts. For example, over the 2003-2007 period, 43 different development partners disbursed aid to Uganda. This included 29 bilateral development partners and 14 multilateral development partners, of which eight were UN agencies and two were Global Programme Fund targeting specific themes, such as HIV/AIDS prevention (NDP, 2010). Some of these funds supported the budget while others were project- and programme-specific. The education sector benefited from this foreign financing to the tune of approximately 50 per cent of the total annual budget (Ward, Penny & Read, 2006). The major concern about donor funding is that it is dwindling, apart from its untimely disbursement and having some political strings attached. For example, of the US $ 6.7 billion ODA disbursed to Uganda over the 2003-07 period, half was disbursed by just three DPs (the World Bank, US and UK), while more than 90 per cent was disbursed by 12 DPs. Thus 30 DPs disbursed less than 10 per cent of ODA to Uganda over the 2003-2007 period (Ward, Penny & Read, 2006).

6.4 Enrolment Trend in Higher Education

Uganda's liberalisation of its economy in 1997 opened up the education sector to private providers. The World Bank (2010) asserts this has led to an upward trend in enrolment in higher education institutions in Uganda. The available statistics show that enrolment in higher education institutions in Uganda stood at 137,011 in 2006 and is projected to be 248,500 in 2015. This gives a ratio of 2015 to 2006 of 1.8. Yet the average annual resource envelope for higher education in Uganda stood at US $ 58.5 million in 2004 and this is expected to climb to 87.5 in 2015, leaving a funding gap of US$ 29 million. Privately sponsored student numbers in both private and public institutions have increased enormously. By 2005/6, the share of private fee-paying students in public universities was 80.2 per cent (9,592 students) as compared with 19.8 per cent (11,786 students) government-sponsored ones (NDP, 2010). The increasing rate of enrolment with such a higher funding gap is a big challenge. This will raise questions such as how to expand higher education systems with respect to classrooms, laboratories, libraries, lecture halls and improvement in administrative capacity. It will also raise questions about how to employ a sufficient number of senior faculty members (namely professors and assistant professors), who are necessary for undertaking research, raising the scientific and pedagogical level of other instructors, and preparing future generations of instructors and research scientists (World Bank, 2010). The current staffing ratio of 1:20, representing only 53 per cent of total needs, is far lower than the ideal set by the NCHE. Moreover, about 47 per cent of academic staff work part-time, which is inconsistent with what is required to maintain high quality education and training standards (NDP, 2010).

6.5 Narrow Tax Base

Uganda still has a narrow tax base though recent attempts have been made by government to improve this. These attempts have contributed towards improved tax revenue performance but more still needs to be done. Improved revenue collection sounds promising for all sectors, including higher education. It can be used for developing infrastructure in institutions, research and professional skills development. Unfortunately, even if revenue improves, there is no guarantee that higher education would benefit from this. For example, of the oil revenue realised in the 2010/11 financial year, about 90 per cent was allocated to fund the Karuma hydro-power project (*Daily Monitor,* June 8). The education sector in general did not feature among the top three priority areas for funding by government in the last financial years, having been dominated by infrastructure development, agricultural production and productivity, the

promotion of science, technology and innovation and employment creation (*Daily Monitor*, 2011, June 8).

6.6 Poverty

With a population of 30.7 million[11] Uganda is still one of the poorest countries in the world. Though much effort has been made by government to alleviate poverty in the last two decades, poverty still presents a serious challenge to government. After falling from approximately 56 to 34 per cent between 1992 and 2000, the proportion of the population living in poverty rose to 38 per cent by 2003 before declining to 31 per cent in 2006 and 24.5 per cent (7.5 million) by 2010 (Uganda, 2012; NHS, 2010). However, the Uganda (2012) poverty report states that inequality is high, with a Gini coefficient of 0.426 in 2010/11. This is, however, comparable to that of Kenya (0.425 in 2008) and lower than that of China (0.48 in 2010) (Uganda, 2012). The UNDP (2008) report shows that the poorest 10 per cent of the population only have a share of 2.3 per cent of the national income whereas the richest 10 per cent have a share of 37.7 per cent. The proportion of the population living in poverty is also much higher in some areas of the country than in others, suggesting that the process of poverty alleviation has been highly uneven, both geographically and sectorally (Uganda, 2012). For instance, the reports say that 77 per cent of the population of Kampala is middle class whereas 76 per cent in the northeast is poor.

The poverty scenario provides a big challenge to funding higher education since a good proportion of households are poverty-stricken. Policy-makers are always in a dilemma regarding how to adequately apportion the budget for higher education without crippling other sectors that are also essential in fighting poverty. Experience has shown that in such a situation, higher education has not been a priority in the annual budgeting. This is consistent with Appleton's (2001b) finding that government expenditure is disproportionately directed to the primary education level where social returns are higher than at any other level.

6.7 Democracy and Governance

These present a great challenge to the current government. Although institutionalising democracy has assumed top priority in most African countries, some Ugandans are dissatisfied with the current political developments. At the moment pluralistic politics is very fragile as the political

[11] Population estimated during the 2009/2010 Uganda National Household Survey by Uganda Bureau of Statistics.

system has become militarised over the years (Uganda, 2009). The militarisation of politics has undermined the checks and balances of power among key organs of the state. The representation of the military in Parliament in a multiparty democracy, which was introduced in Uganda after the 2005 national referendum, undermines the role of Parliament in holding both the executive and the security establishments accountable. Whereas democracy calls for freedom of expression, this is becoming a rare commodity in Uganda. The opposition is not allowed to freely express their discontent. The absence of public spaces in Kampala has led to serious confrontations between demonstrators and government forces when people tried an alternative vehicle for expressing their grievances in the form of "Walk-to-Work" protests. In this series of protests which started on 11 April 2011, the police violently dispersed stone-throwing crowds using teargas.[12] There is increasing evidence that the government is consolidating its position in power by becoming increasingly militarised. On every major highway leading into and out of Kampala city today, it is not uncommon to see heavy deployment of police vehicles. Funding and maintaining such militarisation and "undemocratisation" processes blocks the avenues for funding other sectors, such as higher education.

In terms of governance, corruption in government has become institutionalised. It is widely known that corruption in Uganda is endemic and widespread (Uganda, 2009). The mainsprings of such corruption are societal attitudes, political greed, weak institutions, weak and faulty accounting systems, low remuneration and poor employment benefits in the public sector (Uganda, 2009). Corruption is rampant in the political sphere, manifesting itself in various ways including fraud, embezzlement, misappropriation of public funds and assets, and the use of public resources or assets for private gain. Some of this corruption takes place directly in higher education institutions, thus adding insult to injury. Indirectly, it drains public funds that could have been used for furthering the cause of higher education.

7 Opportunities for Funding Higher Education in Uganda

7.1 Encouraging the Contribution of Households

The role of households in financing higher education is not insignificant (World Bank, 2010). Households in Uganda are able to contribute to financing higher

[12] BBC News "Kizza Besigye held over Uganda Walk-to-Work protest", 12 April 2011. http://www.bbc.co.uk/news/world-africa-13033279.

education by meeting the costs of educating their children either in part or in full. The prospect seems brighter as the level of poverty has seen a marked decline since 1986 (NDP, 2010). This implies that the welfare of households is getting steadily better. The government's continued policy of improving the welfare of the people through programmes such as Northern Uganda Social Action Fund (NUSAF), Peace Recovery and Development Plan (PRDP) and the general expansion of the social protection programmes[13] are all avenues for putting money in the hands of ordinary people. The government only needs a strong policy that ensures that the money earned by households is put to good use, including supporting higher education initiatives.

7.2 Development of Private Higher Education

The liberalisation of the economy and the pursuit of private sector led-growth (Obwona & Ssewanyana, 2007) has greatly enhanced the prospect of increasing the financing of higher education as more private institutions can be licensed to meet the increasing demand for higher education. The high enrolment of foreign students in Uganda's higher education institutions, which stood at 12,930 (9.4 per cent) in 2005/6 (NCHE, 2009) is a positive development. The Ugandan government can further encourage the growth of higher education provision by the private sector that meets market needs through having a strong regulatory framework and incentive measures. This approach has already had a positive impact on the development of the private sector in Cote d'Ivoire (World Bank, 2010).

7.3 Widening the Tax Base

There are three areas that can still be used to increase tax revenues: expansion of the base of taxation; reforming the structure of taxation; and extensive re-organisation of the institutions that administer the taxes in the country to improve tax collection efficiency and compliance (NDP, 2010). In the Uganda National Development Plan (2010/2015), the government plans to raise tax revenues by ensuring continued stability of the tax system and improvement in collections from other revenue sources, especially non-tax revenue (NTR) which currently contributes only about 1 per cent of total domestic revenues. To raise additional revenue from NTR, the government plans to review all its

[13] Social protection programmes are being implemented by the Ministry of Gender, Labour and Social Development with assistance from partners such as UKaid, Irish Aid and UNICEF.

rates. It also plans to streamline existing exemptions and tax incentive polices. In addition, improvements will be made to tax administration to enhance the compliance rate and focus on the retail sales end of value added tax (VAT) (NDP, 2010). According to the same source, the revenues from Uganda's oil deposits, which are expected to materialise during the implementation of this NDP, should significantly improve Uganda's domestic revenue base, and this should result in a lower fiscal deficit in the medium term. The government also plans to include the large subsistence and informal sectors of the economy in the taxable bracket. In addition, the researcher has identified the re-introduction of graduated tax,[14] which was abolished by government in 2005, as another possible avenue of taxation.

According to the 2011/12 budget, some of the planned increase in the tax base has started bearing fruit. Oil revenue collected in 2010/11 amounted to USh 1,008 billion (*Daily Monitor,* 2011, June 8). NTR collections amounted to USh 86.3 billion, which is equivalent to about 1.7 per cent of the total domestic revenue. Several reforms in tax administration have been undertaken during the year to enhance the efficiency of tax administration and reduce the costs of compliance. These reforms include rolling out on-line tax services in the Jinja, Gulu, Kampala, Mbale and Mbarara stations.[15] These developments allow taxpayers to register, file returns and pay taxes on-line, once they access the internet. Other improvements include quicker customs processes and improvements in the management of bonded warehouses. What should be noted very seriously is that government should show commitment in enforcing the planned revenue generation programmes and appropriately spend on all sectors, including higher education. More areas of tax reform should also be explored.

7.4 Student Finance Assistance and Loans

In Uganda, provision of assistance to students is still rare. A few students, however, have had access to State House-administered scholarships that are meant to benefit student from needy households. However, there is serious public concern about the effectiveness of this scheme because of its political implications. Nevertheless, there is still room for state provision of student

[14] Graduated tax used to be levied by government on the income of citizens to raise money for government programmes and services. Local government used to raise about 75 per cent of its revenue from this source. Unfortunately, because of the political ambitions of the ruling government then, it was abolished in 1995 without considering its repercussions.

[15] Apart from Kampala, the capital city, the rest are regional towns with municipal status.

assistance but, in the interest of fairness, such assistance should be means-tested and should not have political strings attached. If the management of such assistance is left to an institution such as the NCHE, the entire scheme could prove to be more effective. As already noted, in Francophone countries (with some exceptions) all students receive financial assistance in the form of exemption from tuition fees payment coupled with the provision of grants for living expenses (World Bank, 2010). Means-testing software programmes have been developed in Rwanda, Kenya, and South Africa to determine what individual students can reasonably afford to pay for higher education (World Bank, 2010). These ideas can be borrowed by Uganda. The provision of loans to students to access higher education has been long overdue. Although this exists in a proposal form (NCHE, 2009), it needs now to be operatinalised. As already noted, the concept of student loans has existed in Africa for more than 50 years (Woodhall, 1991). Loans, therefore, provide a good prospect for financing higher education in Uganda.

7.5 Donor Aid and Behaviour

Though we have noted that donor aid and behaviour are not favourable for Uganda, there is still a glimpse of hope for financing higher education. As the world is recovering from the global economic and financial crisis that swept across the world beginning 2007 (Ortiz, 2011), there is hope that donors will begin to honour their pledges to Uganda. To enhance the chances of getting more support from donors, Uganda needs a clear national strategy in favour of higher education. In addition, pursuing the higher education national goals in line with donor aid priorities creates an opportunity for receiving donor aid. If the chances of getting donor aid from the traditional western countries are slim, Uganda can still make use of South-South cooperation as an avenue for bridging the gap created by lack of donor support from the West. China is potentially a good partner in this regard. Though still minor in amount, South-South transfers are already occurring in three main forms: (i) bilateral aid, (ii) regional development banks and (iii) regional integration(Ortiz, 2009).

7.6 Diversification of Sources of Funding

There are opportunities for diversifying funding sources by the respective higher education institutions in Uganda. At the moment, the proportion of own resources generated at public universities stands at about 56 per cent (World Bank, 2010). Higher education institutions should continue to exploit every opportunity for expanding their resource base through internal management reforms and innovations. Benin's two public universities, where fee-based vocational training courses generate approximately 40 per cent of their operating budget (excluding salaries), are a case in point (World Bank, 2010).

These supplementary resources would augment effective public expenditure per student and could be used to improve on quality, among other outcomes. Efforts should be made to identify more and reputable foundations and partners, as their role in capacity-building and institutional development is well documented in SSA (World Bank, 2010).

7.7 Streamlining Students Support Services

This is one area, especially in public universities, where government can save money to spend on core activities. Supporting student services, such as feeding and accommodation, can be streamlined and the money used for capacity-building and institutional development. Though Makerere University Council cancelled free meals for government-sponsored students and instead, with effect from the 2009/10 academic year, started giving USh 2,000 to each student as a daily meal allowance, this can be abolished altogether and the money used for capacity-building or topping up the salaries of lecturers, who have frequently locked horns with government over demands for a pay rise. In Tanzania, students became responsible for their own food and housing costs, student union fees, and housing deposits starting in 1993. In 2002, Malawian students became fully responsible for the cost of boarding as part of the country's higher education cost-sharing policy (World Bank, 2010). Government scholarships abroad should be limited strictly to studies of essential relevance to national development. Savings can thus be realised for spending on domestic higher education.

7.8 Prioritisation of Science and Technology Related Disciplines

The Ugandan Parliament has endorsed a government policy to direct scholarships to public universities increasingly towards scientific and technology disciplines, with up to 70 per cent of the scholarships being earmarked for S&T and other areas of study deemed to be of critical economic importance (World Bank, 2010). Public universities that will reorganise their curriculum and focus on science- and technology-related courses will automatically benefit from this scheme, which provides a reliable source of funding.

7.9 ICT

The increasing innovation in ICT the world over represents an opportunity for improving the funding of higher education. Through this, institutions of higher learning can be encouraged to develop distant learning programmes which are

less costly. Distance education is developing rapidly in all regions of the world, especially thanks to the flexibility that it offers, which allows, among other advantages, the promotion of lifelong education. Under certain conditions, distance education also makes it possible to respond to steep increases in the number of students at a marginal cost that is significantly lower than that of face-to-face teaching (World Bank, 2010). Burkina Faso has included in its development strategy a distance education course list that is expected to double the number of students enrolled in five years (World Bank, 2010).

7.10 Discovery of Oil

The discovery and exploitation of oil in the Lake Albert region (Pagnamenta, 2009) should provide a great prospect for increasing government revenue, including spending on higher education. Some of the hype surrounding the discovery of oil suggests that when exploitation begins, the country will be earning US$2 billion a year in oil revenues.[16] It is hoped that Uganda will not fall prey to the African "oil curse" that afflicts Congo and Nigeria, two massive treasure troves of natural resources that have been squandered owing to greed and bad leadership.

8 Conclusion, Limitations and Policy Implications

From the literature, it can be concluded that higher education is a global concern, particularly in SSA, of which Uganda is a part. The analysis proves that in Uganda higher education is being choked by serious under funding – unfortunately when enrolment is increasing at all levels. Despite impressive economic growth which higher education contributes to, it is not receiving the proportionate share of the growth benefits in terms of budget allocations. Meeting the ultimate outcomes of funding higher education requires fundamental shifts in spending and the prioritisation of national budgets as well as exploiting other potential opportunities.

First, the research is limited in that it relied only on qualitative methods. In future, a combination of both qualitative and quantitative approaches needs to be employed to arrive at a comprehensive dynamics of funding in this sector. Secondly, though mentioned in the conceptual framework, the role of higher

[16] http://business.blogs.cnn.com/2011/08/18/can-uganda-avoid-the-oil-curse? Posted by Robyn Curnow.

education in national development was not examined as this was considered outside the key objectives of the research. However, the current analysis provides an up-to-date and informative scenario of higher education in Uganda on the main concepts identified.

Uganda needs to seriously address the under listed issues of funding higher education if this sector is to continue contributing effectively to national development:

- Intensifying the implementation of poverty alleviation programmes and consolidating the gains made as doing this brings money to households who may then spend the benefits on higher education.
- Encouraging the growth of private-sector higher education through the creation of investment-friendly conditions. Doing this creates alternative avenues for people who fail to get admitted to public-funded institutions. The current modest policy is already seeing the influx of foreign students to Uganda.
- Giving financial assistance in the form of bursaries to students. This needs to be a policy priority for all institutions. This creates an opportunity for bright student from disadvantaged backgrounds to gain access to higher education.
- The loan proposal which has remained on paper needs to be implemented. Doing this would open the doors of higher education to those who would otherwise not access it.
- Donor aid can still be harnessed to support higher education. Appropriate fulfilment of donor conditions and improvement in the management of donor funds are avenues for attracting the funds. South-to-South cooperation is particularly encouraged in the face of decreasing support from the North.
- More and better foundations should be identified and partnered with, either at institutional or national level as they appear to be a reliable source of funding.
- Universities and other tertiary institutions should be innovative enough to diversify the sources of their funding. Hiring the institutional facilities out to the public is one such avenue.
- Streamlining student support services by eliminating "unnecessary" costs, such as on accommodation and feeding, are avenues for saving money for capital development.
- The higher education institutions should, as much as possible, re-design their curricula to reflect government priorities. Focusing on science-related courses could attract more support from government.
- Ugandan higher education institutions should exploit the ever-increasing use and application of ICT to improve on delivery.

Developing distance education courses are critical in this respect for capturing the growing regional market.

- The Ugandan government should prioritise the utilisation of oil revenue and higher education should be among its top priorities

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Case for a Regional Approach to the Regulation of Cross Border Higher Education with Specific Reference to East Africa

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Abstract. Cross border higher education, which involves the movement of higher education students, lecturers and study programmes across national boundaries is one of the fastest growing elements of higher education today. This paper notes that in as much as this movement is presenting the students, lecturers, higher education institutions and nations with a range of benefits and opportunities, it also threatens the quality of higher education in a number of ways. The paper argues that national higher education quality regulatory agencies and frameworks may not be adequate to regulate cross border higher education, given its multinational character. Therefore, the paper argues for a regional approach to the regulation of cross border education. Thereafter, it discusses some of the prospects for and constraints impeding realization of this regional approach.

Keywords: Cross border education, Regional quality assurance, East Africa

1 Introduction

The 21st century is characterised by a remarkable rise in the number of cross border students and study programmes (Moore & Lambert, 1996). Electronic delivery of education programmes has become widespread in many parts of world and there is a steady increase in the number of cross border providers of higher education programmes (OECD, 2004a). Massification of higher education has constrained many nations' capacity to provide access to higher education using conventional modes of delivery and there is an increasing number of students following study programmes that are produced and managed outside the countries where they are offered. These developments in the higher education sector have brought several opportunities. The *exporting* institutions and nations gain from expanding student enrolment and income through tuition fees while the *importing* nations benefit by supplementing the

domestic supply of higher education (Sum, 2005). However, the developments have also posed challenges for quality assurance. For instance, significant concerns relate to the question of who awards the course credits or ultimate credential for the mobile programme and the question of whether the qualification is recognised for employment and/ or further study beyond the awarding institution/ country. Incidentally, in many countries, higher education quality regulatory agencies are budding and lack the ability to effectively regulate the quality of cross border education.

Subsequently, higher education institutions (HEIs) and nations are devising innovative systems of distance education delivery and strengthening their collaborations with other institutions and nations in the areas of quality assurance and accreditation. This study undertook to: 1) highlight the main universal indicators used in quality assurance of distance higher education in East Africa; 2) describe the rationale for regional quality assurance collaboration; and 3) reveal the possible drawbacks for the effective implementation of regional collaboration in quality assurance for distance higher education in East Africa.

1.1 Concept of Quality in Education

Quality of education is relative and varies from one education system to another and it is subjective. It varies with time and societal expectations. Thus, it cannot be entirely divorced from the objectives of education in any particular country (Oguntimehin & Adeyemi, 2012). Similarly, it is declared in "Quality Assurance Practices in Higher Education in Africa" (nd), the Inter University Council for East Africa (IUCEA) (2008), in its *Handbook for Quality Assurance in Higher Education* and elsewhere that quality of education has been defined differently by different stakeholders and different countries may even define this concept differently. The academic staff, students, employers, government, and the society at large may have conflicting definitions of the term *quality.* The British Standard Institution (BSI) defines quality as the "totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs" (as cited in Mishra, 2006:11). Therefore, there is a quality of input, quality of processes, and quality of output (IUCEA, 2008).

1.2 Concept of Distance Education

Although there are many ways of defining *distance education*, in this paper it will refer to an organised, instructional delivery system that connects learners, regardless of their spatial and temporal location, with instructors and other educational resources. As distance learning generally occurs in a different place

from the teaching, it requires special techniques of course design, instructional design, and communication. Distance education uses technology to improve interaction and minimise separateness. On the other hand, *e-Learning,* a rapidly growing integral component of distance learning, refers to the acquisition of knowledge, skills, and values through a broad range of electronically distributed teaching and learning materials. E-learning applications and processes include: web-based learning, computer-based learning, virtual education opportunities, and digital collaboration. Subject matter is delivered via the Internet, intranet, audio or video tape, satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, streaming video, and audio.

Besides the distance education programmes and courses being offered by many higher education institutions practising the dual mode of delivery in East Africa, there are higher education institutions dedicated to offering distance education.

1.3 Quality Assurance and Related Concepts

Quality assurance is a combination of planned and systematic activities implemented in an education system so that quality requirements for education will be fulfilled as compared with some acceptable standards. It may take or involve various forms such as accreditation, assessment and academic review, and auditing. *Accreditation* is an evaluation of whether a programme or an institution meets acceptable standards and qualifies for a certain status (Kis, 2005). In East Africa, the term accreditation is sometimes used to refer to public universities that were established by acts of Parliament, by statute, or by decree. They are accredited (by law) but not as the result of peer review, a site visit, and a report assessing the institution. Whereas *assessment* is an evaluation that makes graded judgments about quality and goes beyond accreditation which, according to Dill (as cited in Kis, 2005), makes a binary judgment. This type of quality assurance is an institutional academic review, a diagnostic self-assessment and evaluation of teaching, learning, and its related activities. *Auditing* checks the extent to which an institution is achieving its own explicit or implicit objectives as weighed against its own standards and goals. *Quality control* is concerned with checking whether the produced products or offered services meet the set standards. Quality is checked usually at the end of the production procedure and someone from outside the institution carries out this task. This approach in higher education is disputed due to the fact that everyone who is working for the institution is held responsible for the quality of the institution. While quality assurance focuses on improvement aspects, quality control has a notion of accountability.

1.4 Distance Higher Education Quality Assurance in Africa

Almost all of the quality assurance agencies operating in Africa have responsibilities to distance and e-learning. On the whole, however, very little quality assurance work has been done on either distance or e-learning in Africa. South Africa has a relatively long history of distance learning institutions with both the University of South Africa and Technikon South Africa having large student bodies and relatively long histories of operation. The South African Institute for Distance Education (SAIDE) works across the whole field of education, ranging from Early Child Education and Development to tertiary education and training, and is guided by the key principle of quality provision of education as an important condition for enhancing the socio-economic well-being for the majority of society.

Africa began to observe the development and implementation of quality assurance and accreditation policies for distance education, which are clearly different from those for on- campus education, less than a decade ago. The African Council for Distance Education (ACDE) was formally launched in January 2004 (http://www.acde-africa.org/). It is a unifying body of distance education providers and practitioners in Africa consisting of African universities and other higher education institutions which are committed to expanding access to quality education and training through open and distance learning. In August 2008 it was agreed that the ACDE Technical Committee on Quality Assurance and Accreditation be renamed Quality Assurance and Accreditation Agency. The establishment of QAAA focused on the need to ensure that open and distance learning institutions in Africa engage in acceptable quality assurance practices through consultation, partnership, and collaboration in distance education approaches (http://www.nou.edu.ng/noun/acde-qaaa/index.htm).

Whereas all of the quality assurance agencies in Africa are linked in some way to the government (as parts of a ministry of education or a semi-autonomous unit), the idea of non-governmental accreditation is seen as important in other countries elsewhere in the world. This was also part of the original plan for South Africa. Accreditation by autonomous, non-governmental quality assurance agencies is a tradition in some parts of the world, especially the United States of America. In such cases, the work of accrediting agencies is usually recognised by the government and accreditation is often seen as a condition for receiving government funding.

1.5 Background to Higher Education Quality Assurance in East Africa

Apparently, each university in East Africa has some sort of quality assurance mechanism in the form of regulations and criteria regarding academic staff

recruitment and appraisal, rules and regulations on academic activity performance, student evaluations of course delivery, stakeholder involvement in the curriculum review process, external examination systems, and academic auditing as conducted by some universities (Nkunya, 2008). Individual universities having their quality assurance mechanisms notwithstanding, there are national educational quality assurance agencies for each country.

At the university level, the first accreditation agency in Africa was established in Kenya by the Commission for Higher Education (CHE) in 1985 by an Act of Parliament, the Universities Act Cap 210B. The CHE was set up because of general concerns about the quality of higher education and the existence of several institutions offering "university education whose establishment and development was uncoordinated and unregulated . . ." (Hayward, 2006). Among its functions were accreditation and inspection of institutions of higher education. Standards for accreditation were established in 1989 as were rules for establishing new universities. The actual accreditation process began in 1989 in Kenya only for private universities. Among the first to be accredited was the Catholic University of East Africa. Accreditation in Kenya is now required of private universities, public universities other than those established by an Act of Parliament, foreign universities, and any other agency operating on behalf of any of those institutions. The Commission for Higher Education is concerned with quality assurance of both conventional and distance higher education in Kenya.

In Tanzania, the Higher Education Accreditation Council which had been in operation since 1995 was then succeeded by the Tanzania Commission for Universities (TCU) beginning on July 1, 2005. Previously, all universities and non-university higher education institutions implemented their obligatory functions as set forth in their individual Acts of Parliament or constitutions including the development of internal quality assurance systems. Thus, TCU is a corporate body mandated to recognise, approve, register, and accredit universities and university colleges (both conventional and distance modes of delivery) operating in Tanzania and local or foreign university-level programmes being offered by non-TCU registered higher education institutions (TCU, 2010). This commission also coordinates the proper functioning of all university institutions in Tanzania so as to foster a harmonised higher education system in the country. In order to ensure that such a harmonious higher education system does not compromise institutional peculiarities and autonomy, each university has the legal right to operate under its own Charter.

Uganda, having realised the truth that global forces are transforming the way higher education is being delivered, sought to set up a regulatory body for higher education. Thus, to regulate higher education and guide the establishment of institutions of higher learning as well as ensure that quality and relevant education is delivered, the National Council for Higher Education

was established in 2005 by an Act of Parliament (National Council for Higher Education, 2007; 2008). This is a semi-autonomous and self-accounting body. The core mission of this agency is to set standards and regulations to ensure that all public and private tertiary education institutions in Uganda create, sustain, and provide relevant and quality higher education for all qualified Ugandans and to meet the local, national, and global higher education challenges of the future.

2 Methodology

Although the East African Community (EAC) consists of Kenya, Tanzania, Uganda, Rwanda, and Burundi, East Africa in this paper refers to Kenya, Tanzania, and Uganda which are the original countries of the EAC. Indisputably, these three countries have the most well-established and coordinated higher education systems within the Community. This study provides findings drawn predominantly from the qualitative content analysis of data from both primary and secondary documents and records belonging to the quality assurance agencies for higher education in the three countries: the Commission for Higher Education, Tanzania Commission for Universities, and National Council for Higher Education for Kenya, Tanzania and Uganda, respectively. The documents and records for the Inter-University Council of East Africa were also deemed vital to supplement and triangulate the data collected from the individual countries.

According to Barbara & Wildemuth (nd), qualitative content analysis is "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns. This approach was regarded as genuine and relevant for this study because this study intended to produce an interpretive paradigm from the available authentic documents and records pertaining to quality assurance in higher education in East Africa.

In addition, analysis of literature from some research papers, articles, and textbooks related to quality assurance of higher education in Africa, particularly in East Africa, was conducted to extract information applicable to the present study. Selection of these documents was primarily based on these factors: the internal and external coherence to the study, correspondence between theory and data, the fruitfulness of the data, and the trustworthiness of the sources for professional credibility (Gall, M., Gall, J., & Borg, 2003: 283). Data obtained from all sources was sorted into categories and interpreted by focusing on the three objectives of this study.

3 Quality Assurance in Distance Education

3.1 Approaches to Quality Assurance in Distance Education

Governments in East Africa advocate for more institutions to adopt distance education methods, seek new markets, and offer more of their courses online. (Jung, Wong, Li, Baigaltugs, & Belawati, 2011) suggest that this is the trend in Asia and elsewhere too. However, the most challenging issue facing institutions and nations is how to assure and improve quality while at the same time widening access and reducing costs. Writing about quality assurance of higher education in Europe, Robinson (nd) alleges that open and distance learning (ODL) has faced an ongoing struggle to establish its credibility, legitimacy, and equivalence to conventional provisions, even when its quality is good. Its success in achieving these has varied among countries and institutions. Uncertainty has revolved around whether ODL programmes should have separate quality assurance requirements or the same as those for conventional campus-based programmes and whether they should be generic or specific, mandatory or optional. Nations having formal mechanisms for higher distance education may be following one of the categories of approaches as described hereunder:

1. Integrated approach. Quality assurance of distance education as an integral part of the entire higher education delivery system. Thus, the same procedures and criteria are applied to both distance and conventional education systems. Tanzania and Uganda fall under this category. This approach is seen in countries such as Indonesia and Sri Lanka (Jung, *et al.*, 2011).
2. Differentiated approach. Quality assurance of distance education as a distinctive mode of delivery. The fact that distance education has some unique features as contrasted with conventional education is underscored to establish a separate quality assurance mechanism and/or separate criteria for assessment. In East Africa, though not very explicitly, Kenya follows this approach. The Commission for Higher Education (CHE) of Kenya stipulates procedures and criteria for assessment of ODL (CHE, 2008: 75-95). Asian countries which employ this model include India and Korea.

Any approach adopted for quality assurance of distance education definitely has not only strengths but weaknesses too. Nevertheless, the most crucial point is that each approach bears a very close resemblance to the others in terms of quality assurance and recognition of the programmes. The ACDE's decision to establish QAAA as already stated in this paper, is most likely an outcome of thinking in line with the above approaches. Certainly, the long term ramification of this noble decision is subject to debate.

3.2 Criteria for Quality Assessment of Distance Higher Education

The content analysis of the criteria for quality assurance as stipulated by the Tanzania Commission for Universities, the Commission for Higher Education of Kenya, and the National Council for Higher Education of Uganda discloses that their standards and criteria have a lot in common. Additionally, when we analyse the standards and criteria from other countries and institutions around the world we realise that they all basically cover the same key aspects. The present study compared standards and criteria from a wide range of literature obtained from Asia, Africa, and Europe and from reputable international organisations such as the Commonwealth of Learning, United Nations Educational, Scientific and Cultural Organization (UNESCO), and the Organisation for Economic Co-operation and Development (OECD). Jung *et al.* (2011), COL (2009) and Hayward (2006) note that, in general, quality assurance systems and criteria for distance education evaluation focus on assessing input, process, and output variables. These include: institutional vision, mission, goals, and core values; institutional management, organisational culture, and leadership; human resource development as it supports academic excellence; stability and management of financial resources; ICT and library systems; curriculum design, implementation and development); learner assessment and evaluation; learner support programmes; internal quality assurance mechanisms; and research, consultancy and extension services.

Table 1: Quality Assurance Standards and Criteria for Kenya, Tanzania and Uganda

Kenya	Tanzania	Uganda
A. Institutional Standards		
Mission & vision	Objectives, mission & vision	Objectives, mission & vision
Institutional governance	Institutional governance	Institutional governance
Academic character	Academic orientation	Academic orientation
Academic programmes	Curriculum offered	Quality of pedagogy
Human resources	Academic staff	Academic freedom
Library services	Facilities	Facilities
Financial resources	Finances and budgeting	Financial management
Schedule planning	Strategic planning	Strategic plan
B. Programme/Curriculum Standards		
Qualified staff	Qualified staff	Qualified staff
Academic resources	Academic resources	Academic resources
Admission of students	Admission of students	Admission of students
Size of the programme	Duration of the programme	Duration of the programme
Content of the programme	Content of the programme	Content of the programme
Programme assessment	Programme assessment	Programme assessment
Evaluation of teaching	Quality control systems	Quality control systems

Source: Compiled from CHE (2008), NCHE (2008) & IUCEA (2010)

Table 1 clearly indicates that despite the differences in wording in some cases, the higher education quality assurance agencies in these three countries insist on the same key standards and indicators for quality assurance. However, there are few criteria which seem to be unique to each agency. For instance, while the NCHE of Uganda specifies physical resources, the CHE and TCU stipulate facilities in general and TCU adds the campus size as a separate issue. Moreover, NCHE lists goals and aims of the programme as a crucial indicator whereas CHE and TCU do not specify it at all. Interestingly, CHE requires institutions to consider the quality of output and quality of research and publications as important standards. It is natural to understand that the quality of output by itself consists of a host of issues.

4 Rationale for Regional Collaboration in Quality Assurance

There is ample evidence that provisions of distance higher education inevitably entail both intra-national and either regional or international collaborative efforts. That is one reason for the involvement of reputable regional and international organisations such as the South African Development Community (SADC), Commonwealth of Learning (CoL), Organisation for Economic Co-operation and Development (OECD), United Nations Educational, Scientific and Cultural Organization (UNESCO), World Bank (WB), and World Trade Organization (WTO) in the quality assurance of ODL. Moreover, regional distance education organisations such as: the African Council for Distance Education-Quality Assurance and Accreditation Agency (ACDE-QAAA), European Association of Distance Teaching Universities (EADTU), Asian Association of Open Universities (AAOU), and United States Distance Learning Association (USDLA) have been formed for the same purpose.

It has already been declared in this paper that the present era is typically characterised by international educational mobility including cross-border, e-learning programmes, which are certainly important features of contemporary distance education. Presently, one can easily identify the physical or virtual movement of education courses and programmes across national borders through the implementation of face to face, distance, or a combination of these modes. Credits towards a qualification may be awarded by the sending foreign country or institution, an affiliated domestic partner, or jointly (Knight, 2007).

4.1 The Rationale for Regional Collaboration in Quality Assurance

The justification for regional collaboration on quality assurance for distance higher education is chiefly anchored on the perceived responses to the basic question: *Do individual institutions and nations have the capability to establish*

and manage quality assurance for both incoming and outgoing education programmes? Generally, the diversity and complexity of education mobility (Knight, nd.) suggest a necessity for mutual quality assurance and recognition mechanisms between and among nations.

4.2 Academic Factors

The changing educational paradigms in higher education are such that distance education is rapidly gaining recognition as the most viable option for widening access to higher education opportunities at a relatively low cost without jeopardising its quality. Moore & Lambert (1996) state that, through the sharing of materials, facilities and approaches, collaboration facilitates improvement of the quality of learning materials. Further, through mutual quality assurance institutions and nations open educational opportunities to a broader population of learners than are conventionally served and testify to the assurance of the recognition of the programmes (Moore & Lambert, 1996).

Risks and benefits for collaboration vary between sending and receiving countries, between developed and developing countries, and students, yet Gupta (2007) adds that mutual implementation of quality assurance strategies minimises the imbalance between brain drain and brain gain, exposes students to the latest educational technology and practical insights and hence, intellectual enrichment, broadening of cultural viewpoints, and forging of meaningful international bonds. The fact that East African countries are more or less the same in terms of economic, social, and cultural levels and standards makes it possible for them to collaborate mutually and reap similarly from their collaboration.

4.3 Economic Factors

Globalisation is one of the reasons for which collaboration in quality assurance is increasingly becoming a necessity for institutions of higher education involved in distance education provisions. Information and Communication Technologies (ICTs) are outstandingly breaking territorial boundaries that have tended to characterise institutional education. It appears that institutions which desire to become or remain competitive in the global economy should consider regional and international partnership as a means toward gaining financial power. Maviiri (nd.) suggests that even when a cross-border educational activity is considered to be non-commercial in purpose, there is still export value in the country's balance of payments in some ways. And this will largely depend on the country's own strategies to reaping benefits from the beneficiaries. There is, however, a precaution pertinent to economic motives of collaboration. The struggle for survival tends to naturally lead higher education

institutions into corporate institutions. The consequence of which is the likelihood of diverting from the institutional core mission, vision, and goals.

4.4 Political Factors

Bilateral and multilateral cooperation, especially at the national level, tends to have political motives as well. For instance, nations may agree to establish international collaboration with the main objective of reducing trade barriers and increasing economic activity among themselves (Moore & Lambert, 1996). Moreover, fighting unemployment and building significant and accelerating development in relatively less developed countries by enhancing the wealth and quality of educational resources available are possible effects. Mutual partnership can thus be functional in managing globalisation and enhancing human capital within the East African region.

4.5 Ideological Factors

The core philosophy underlying the provision of distance education is the concept of opening up universal access to educational opportunities and resources, especially to less privileged individuals and segments of society. This is otherwise known as the democratisation of education. Trindade (as cited in Moore & Lambert, 1996)observes that distance education institutions tend to be pragmatic in their approach to inter-institutional cooperation and show a greater willingness to take risks to promote international collaboration and are open to modern approaches of delivery brought by rapidly changing ICTs. The same philosophy compels higher education institutions providing distance learning opportunities in East Africa to collaborate.

5 Constraints to Regional Approach to Cross Border Quality Assurance

Despite the strengths of mutual collaboration for quality assurance of education, the establishment and management of effective recognition and accrediting mechanisms or agencies is not an easy undertaking. Common drawbacks include:

1. Differences in general education systems and national educational philosophies. For example Tanzania and Uganda follow a 7-4-2-3 system in which there are 7 years of primary education, 6 years of secondary education (divided into 4 years of ordinary or lower secondary and 2 years of advanced or upper secondary school), and at least 3 years for higher education, whereas Kenya follows an 8-4-4 system, that is 8 years of

primary, 4 years of secondary and at least 4 years of higher education. These differences have a direct repercussion on student exchange between these countries. In some cases students are compelled to do either a bridging programme or a matriculation examination before they are admitted for university studies in a neighbouring country (Maviiri, nd.). Under these circumstances, quality of education may mean different things to different institutions and partner countries.

2. The incongruity of national quality assurance systems among themselves on one hand and the regional (IUCEA) quality assurance system on the other. For instance, Kenya's CHE quite clearly explicates the standards (provider's commitment, design of curriculum, instruction, and course materials, development, staff support, student support, evaluation and assessment, and advertising) and procedures for quality assurance of ODL programmes (CHE, 2008: 75-95) while Tanzania's TCU and Uganda's NCHE are silent about ODL programmes. Of course, the standards and procedures for ODL quality assurance in TCU and NCHE are implied and they follow the same procedures and standards as conventional programmes. Moreover, the emphasis placed on private university quality assurance is not necessarily the same across these countries.
3. Autonomy and the powers of national accrediting agencies are not uniform across these countries. There is a notable proximity between universities and national structures of power which in East African situations has tended to curtail academic freedom and consequently, intellectual expansion among students and staff. For example, it is noted that there have been reported cases of serious government encroachment on university recruitment and contract renewal of professors, university budgets, and institutions' procedures in general. Equally, the regional accrediting agencies such as IUCEA may face a dilemma when it comes to executing its duties to member institutions or countries. For instance, there are cases in which regional agencies are questioned about their power to sanction or terminate membership of institutions and countries which fail to reach some acceptable standards (Hayward, 2006).
4. Cheating and unreliability of data about programmes and institutional activities among member institutions. Sum (2005) implies that there may be a tendency of providing exaggerated information regarding, for example, course/programme content and their delivery and claims relating to the local recognition of the course/programme. Arguably, the ranking system of universities and advocacy for global competition are among the accelerating factors for the provision of exaggerated data.
5. Distance education and higher education in general are at different levels of development among member institutions and nations in East Africa. Institutions may be reluctant to engage in regional efforts for quality

assurance of distance higher education due to the uncertainty of partnering with members who are at different levels of progress. In this regard, Tanzania has a comparatively well-developed single mode of distance education delivery apart from the dual mode which its partner countries have too. There is also an absence of consensus on what exactly constitutes higher education.

6. The proliferation of private and public higher education institutions as a result of liberalisation policies of education. Almost all nations are witnessing a rapid increase in the number of universities and conversion of existing colleges into universities. Some of these institutions are ostensibly not worth of the name 'university.' Again, what is the authority of regional quality assurance agencies such as IUCEA over such institutions? The problem of 'degree mills' has become a critical concern of both local and regional education quality assurance agencies.
7. Governments' reduced capacity in funding higher education programmes including quality assurance systems. Inadequacy of funding hampers the cultivation of a quality assurance culture at the institutional level and at national levels.

Other drawbacks of effective realisation of regional collaboration in distance higher education are: absence of comparable regional standards and mechanisms for regulating all types of cross-border education, the massification of students in higher education surpasses infrastructure hence causing further jeopardy to the quality of educational programmes and students, and the inadequacy of human capacity which could effectively influence quality assurance culture in the academic system.

6 Conclusions and Implications

The contemporary global tendency of students and educational programme mobility, mostly at the higher education level, signifies the reality that the provision of distance education programmes is increasingly becoming an imperative option among nations and higher education institutions. As a result, quality assurance of distance higher education becomes an area of great concern. The central argument of this paper is that even in the era of globalisation and internationalisation of education, the main focus of quality assurance of distance higher education should be at the regional level (such as East Africa) due to the fact that distance education crosses borders so easily especially in the form of e-learning. This emphasizes *regionalisation* rather than internationalisation. This remains valid despite the fact that each nation

has the right to be concerned with their priorities. However, member countries ought to realise that even if they have many commonalities, the specific purpose of their higher education and quality assurance systems, policy frameworks, approaches, and instruments are tailored to each country's circumstances.

By and large, quality assurance in distance higher education is still in its infancy in this region. Countries should consider distance education as an integral part of a broader national and regional education development agenda. Regional collaboration in the provision and assurance of higher education is ostensibly imperative. That being said, there still remains the perplexing paradox of whether we ought to advocate for the partnership and collaboration of institutions and countries or a partnership for competition.

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Massification and Quality Assurance in Tertiary Education: the Nigerian Experience

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Abstract. The study sets out to examine massification and its impact on quality assurance in tertiary education and the extent to which lecturer–student ratio, adequacy of infrastructure and pedagogical resources affect quality in tertiary institutions. Two research questions and one hypothesis were posed to guide the investigation. The study, which adopted a survey design approach, has as its population lecturers in tertiary institutions. Through stratified and random sampling techniques, 432 lecturers and students were selected and the instrument for data collection was questionnaire. The study found that lecturer–student ratio, adequacy of infrastructure and pedagogical resources affect quality in tertiary institutions.

Keywords: Lecturer-student ratio; Pedagogical resources; Quality assurance

1 Introduction

Tertiary education according to the provisions of the National Policy on Education is that education given after- secondary education, in universities, colleges of education and polytechnics in Nigeria. These institutions are owned by either the Federal or State Governments, corporate bodies or individuals. Some federal bodies have been appointed to approve, supervise and accredit courses in these institutions, irrespective of the proprietorship of the institutions. For universities, the National Universities commission (NUC) is in charge while in the Polytechnics and Colleges of Education, the National Board for Technical Education (NBTE) and National Commission for colleges of Education (NCCE) are in charge of moderating academic programmes respectively. While the first tertiary institution in Nigeria, the Yaba Higher College was founded some eighty years ago, the university college, Ibadan was opened in 1948 and the first Advanced Teachers College commenced training

of teachers in 1962. So the youngest of the three main types of tertiary education is fifty years old.

The phenomenon of globalization, which has changed various sectors of world economy, has also had some remarkable impact on education as students' options for tertiary education have increased and are no longer limited by national boundaries. In Nigeria, there is an increased recognition of the economic potential of higher education. On the importance of tertiary education, the New World Bank Report (2002) observed that tertiary education is necessary for the creation, dissemination and application of knowledge as well as for building technical and professional capacity. Tertiary education indeed has been identified to be central to the creation of the intellectual capacity on which knowledge production and utilization depend and to the promotion of lifelong learning practices. It, therefore, becomes important for stakeholders to be actively involved in the management of a system that will focus on quality assurance in spite of increasing number of students.

Globalization and the growth of education at primary and secondary levels have implications for tertiary education. Nigeria's being a signatory to world conventions on education for all gave birth to the National Policy on the Universal Basic Education. With these, all school age children are expected to be in schools and the progressive pupils' population in both the primary and secondary levels have increased.

The trend is not peculiar to Nigeria. Africa has experienced a dramatic escalation in the demand for tertiary education and this started in the 1960s and has continued to the present day. The rapid expansion in the last decades is partly in response to the relative success of the education for all programmes implemented by many African countries, Nigeria inclusive. This led to very considerable expansion in primary and secondary enrolment. For instance Ethiopia is moving rapidly towards a mass public sector higher education system. The considerable challenges raised by 'massification' include teaching, quality, funding, and the need for a more professionalised leadership, inadequacy of staff and institutional structure and mission. The country's higher education sector has grown from two public universities over a decade ago to twenty-two today with another ten due to open soon (Ashcroft, 2010).

Many higher education systems worldwide expanded extensively in the last decades and have undergone wide and deep structural changes. Qiang, (2011) reported that Chinese higher education has expended rapidly over the past decade with gross enrolment rates increasing from 3.4 percent in 1990 to 7.2 percent in 1995 and 11 percent in 2000. In particular, 1999 saw an abrupt jump in new enrolments, with an increase of 47.2 percent. The fast expansion continued until 2004, when higher education enrolment at all levels reached 20 million, double that of 1998 and by 2008 the increase went up to 121.4 percent.

In OECD countries, the proportion of adult with tertiary education almost doubled between 1975 and 2000 from 22 percent to 41 percent.

The irresistible pressure of rising demand which is astronomical in the face of inadequate resources, has posed major problem in Nigeria and other countries. The crucial challenge is to ensure the quality and relevance of programmes and its delivery and at the same time making tertiary education more widely accessible. Ocho (2006) observed that most universities and polytechnics, especially those owned by the federal and state governments, enrol far more students than the available qualified lecturers, facilities such as lecture halls, laboratories, desks reading materials and equipment. Carrying capacity, which is defined as the maximum number of students that an institution can sustain for qualitative education, based on available human and materials resources have been over shot severally. Of the 25 federal owned universities, 18 were found to have over enrolled and Obe (2007) reported that 13 out of the 19 state universities over enrolled while only one of the 7 private universities over enrolled. It was also reported that of the top 10 over crowded universities, federal has 5 and state has 5. With particular reference to the University of Lagos, the student population increased over the years as indicated below.

Table 1: University of Lagos undergraduate students' enrolment

Year	Male	Female	Total
1965	126	5	131
1966	226	6	232
1970	1,561	307	1868
1980/81	8,388	1,997	10385
1990/91	8,029	5,000	13029
2000/01	14, 131	8,217	8217
2001/02	12,052	9,360	21412
2002/03	13,484	10,510	23994
2003/04	13,852	10,203	24055
2004/05	0	0	0
2005/06	12,472	9,529	22001
2006/07	11,885	8,528	20413
2007/08	13,895	10,852	24747
2008/09	12,743	9,513	22256
2009/10	14,195	10,429	24624
2010/11	15,032	11,504	26536

Source: Academic Planning Unit, University of Lagos

A state owned university was found to have had excess enrolment of 24,628. The trend of massification is no different in polytechnics and colleges of education.

1.1 Problem

Tertiary institutions are currently enduring a thunder storm of changes so fundamental that some argue that the very idea of tertiary education is being challenged. Higher education in Nigeria is in crisis and characterized by decline in the quality of teaching, research, decay in library, infrastructural facilities, equipment in the arts and science laboratories and frustrated academic, administrative and support workers.

Most importantly, is the problem of democratization – massification of higher education and the ever escalating cost of education. The provisions of the Universal Basic Education (Education for All) which was launched in September, 1999, make for all school aged children to be in the Nigerian classroom for nine years duration. It is however unfortunate that not much corresponding preparation and provision of resources is made for tertiary level as it is being done for the primary and secondary levels. There is a rapidly increasing number of students in Nigeria's higher institutions and the trend is now approaching what is common in mass education system elsewhere. As a result of large student number, the space requirements of classroom, lecture theatres; laboratories and workshops are hardly met in over 70% of the tertiary institutions (Okebukola, 2000). Facilities are overstretched thus presenting a problem of rapid dilapidation in the face of dwindling funds for maintenance. A preliminary report on the state of equipment in workshops and laboratories of tertiary institutions documents a sorry state of affairs in terms of number and operational status. The more worrisome aspect is that the method of delivering courses and the assumptions underpinning these methods reminded the same. Many people are worried that this increase in student numbers without a corresponding increase in funding and physical facilities may result in a decline in quality.

In these days of increased costs and large classes, institutions of higher learning have found it increasingly difficult to cope with large classes and at the same time maintain quality. The big problem is how to create a system of higher education that balances the twin demands of excellence and mass access. Hence the need for this study to examine massification and its impact on quality in tertiary education in the country. Specific attention was put on three aspects of notable concern, namely, lecturer- student ratios; lecturers' workload; and adequacy of pedagogical resources.

1.2 Objective of the Study

The objective of the study was to examine the Nigerian experience in massification and quality assurance in tertiary education. An adjunct to this is to determine if lecturer: student ratio is an indicator of quality assurance in

tertiary education and the extent to which lecturers' workload, adequacy of infrastructure and pedagogical resources affect quality in Nigeria tertiary institutions.

2 Method

2.1 Design

The study adopted a descriptive survey design. The design was implored because the study was interested in obtaining information concerning the current issue which has to do with the extent to which massification affects quality assurance in tertiary institutions in Nigeria. It involved the generation of information and collection of data from selected participants.

2.2 Population, Sample and Sampling Technique

The population of the study are the thirteen (13) tertiary institutions in Lagos State of Nigeria.

Table 2: Population and Sample

Institution	Faculty	Lecturers	Students	Total
University of Lagos	Arts	4	20	24
	Science	4	20	24
Lagos State University	Education	4	20	24
Federal College of Education (Akoka)	Arts	4	20	24
	Science	4	20	24
Adeniran Ogunsanya College of Education	Education	4	20	24
Yaba College of Education	Arts	12	20	32
Lagos State Polytechnic	Education	12	20	32
Total		48	160	208

Stratified sampling technique was employed to select 6 out of the 13 tertiary institutions in Lagos State. The sample size comprised of 20 students and 4 lecturers from each of the 3 faculties selected. Simple random sampling was used to select 120 students and 24 lecturers from each of the institutions bringing the total sample to 432 participants. Questionnaire was the main instrument used to generate data which reflected the questions raised in the study. Interview was also used to corroborate information got from the questionnaire.

2.3 Validity and Reliability

To ensure face content validity of the instrument, lecturers in University of Lagos, Lagos State University, Lagos State Polytechnic and experts in related areas were consulted. Based on their suggestions, some items in the questionnaire were expunged and some new ones were added. The reliability of the instrument was ascertained using the Split-half technique. This returned a reliability coefficient of .75, which is high enough for a study of this nature (Amin, 2005).

2.4 Data Analysis

Simple mean and percentages were used for analysis of the research questions while Pearson product moment correlation statistical tool was used to test the hypothesis. The statistical tool was implored because it describes the degree of correlation between the two variables that is infrastructure and quality of teaching.

3 Findings

Lecturer-student ratio ranged from 1:10 to 1:163, with Federal College of (Technical) Education being the lowest and the College of Education, the highest (Table 3).

Table 3: Lecturer: student ratio

	Arts			Science			Education			Total		
	L	S	R	L	S	R	L	S	R	L	S	R
University of Lagos	28	2,224	1:79	31	2,160	1:69	80	4,500	1:56	139	8884	1:63
Lagos State University	22	3,108	1:141	28	2,001	1:71	38	3,800	1:100	88	8909	1:101
Yaba College of Education										1,000	20,000	1:20
Federal College of Education										300	3,115	1:10
Adeniran Ogunsanya										49	8,000	1:163
Lagos State Polytechnic										1,022	24,000	1:23

Key: S = Students; L = Lecturers; R = Lecturer-Students Ratio

On the average, only the technical tertiary institutions have quite manageable lecturer: student ratio and this ranges between 1:10 to 1:23. There is however, clear evidence of massification in Universities where, in a State University, the ratio came up to a lecturer to 141 students. Table 3 also shows that, of the three faculties sampled, the faculty of Art seems to have had the highest ratio (1:79 – 1:141). The lecturers/ instructors were asked to assess their workload and their responses are shown in Table 4.

Table 4: Lecturers' assessment on class size and workload

	Frequency				Percentage			
	Low	Moderate	High	Very high	Low	Moderate	High	Very high
The number of students per contact lecture is	7	6	17	42	10	8	24	58
The number of contact hours per week is	31	28	10	13	43	39	14	18
Frequency of take home assignments is	27	26	5	4	57	36	10	7
The use of borrowed/ rented facilities is a common feature at my institution	66	1	3	2	92	1	4	3

From table 4 more than a half of the lecturers (58%) sampled observed that the number of students per contact lecture is very high while 92% of them reported that in spite of the large numbers involved, the use of borrowed/ rented facilities is not a common feature in their institutions.

Table 5: Relationship between infrastructure and quality of teaching

Quality	Infrastructure and quality of teaching			Df	r-cal	r-tab
.04	1260	409	85,890	6	5	.77

Probability level is 0.05

Table 5, shows the result of the tested hypothesis which posited that there is no significant relationship between infrastructure and quality of teaching in Nigerian tertiary institutions. Pearson product moment correlation was carried out to examine the degree of correlation between the two variables. The result shows that there is a significant relationship between the two variables.

4 Discussion, Conclusion and Recommendation

Tertiary education has been sought after by the large numbers of secondary schools leavers. At the tertiary level, massification has been identified in this study since in the universities, lecturer to student ratio is relatively high (79-1:141). This falls below the National Universities Commission's prescription of one lecturer to 25 students. Equally important is the number of contact hours of lecturers as observed by sampled lecturers, majority of them claimed that they do not have enough contact for lecturers, which affect the quality of teaching and learning.

Ocho (2006) reported that some of the effects of over enrolment or overshooting carrying capacity by tertiary institutions include, reduction in the effectiveness of teaching and increase in problem of class control, continuous assessment, difficulty in marking of written work and the conduct of examinations.

On the issue of infrastructure and quality teaching, it is not surprising that there is a significant relationship between both variables. For proper teaching and learning to take place, there must be adequate infrastructure but in almost all the tertiary institutions in the country, the lecture halls are overcrowded and many of the students stay outside because the lecture halls cannot accommodate all of them. The lecturers themselves face the same ordeal, which affects their ability to teach well. Laboratories are small and the equipment is obsolete. However, this situation is not peculiar to Nigeria. In Senegal and Ethiopia, students are usually cramped together in dormitory rooms. For students to secure seats, they have to be in the lecture hall two hours before the class. Those who sit too far may not hear the lecture at all and those who arrive late for lectures perch on the cinderblock in the aisles, or strain to hear from the gallery. Generally a large percentage of the students fail their first and second year examinations at the university as a result of inadequate infrastructure. (Polgreen, 2007). In East Africa, Mamdani (2007) reports similar problem at Makerere University.

It has been found in this research that, on the average, lecturer: student ratio in tertiary institution is generally high but lowest in the technical- based tertiary institutions and highest in the Arts faculties of Universities. The study established a significant relationship between the adequacy of infrastructure and quality of teaching in tertiary institutions.

In view of the above, the paper recommends that the management of tertiary education, in line with major reforms presently embarked upon, should provide the basic enabling environment for effective teaching and learning in tertiary institutions. There is need to draw the attention of the government to the issue of adequate funding without which the institutions can not achieved the set

objectives and goals. In every financial year tertiary institutions should identify priority projects when preparing annual budget for the provision of infrastructure and facilities. The study also recommends the sharing of facilities between institutions. This is necessary in order to spread out the overheads.

The study proposed that the development of education in Nigeria be a balanced venture. In addition, government should restore the necessary balance between the massification of tertiary education and pursuit of academic excellence.

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How do Organisational Characteristics Relate with Use of Knowledge Management Systems?

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Abstract. This study sought to establish levels of use of knowledge management systems (KMS) by Masters students in the College of Education and External Studies in Makerere University and to link the same to characteristics related to a given respondent's organisation of employment, namely ability to absorb change, KMS culture, size and leader's KMS change management style. The study involved 60 students who responded to a questionnaire. Data analysis, involving summary statistics and multiple regression, indicated low levels of use of KMS, but none of the four organizational characteristics was a significant correlate of the same. It was thus recommended that stakeholders such as the Makerere University Directorate of ICT Support provide equal treatment such as exposure and/ or training to all of them irrespective of differentials in their organizations of origin.

Keywords: Change Management, Knowledge Management Systems, Makerere University

1 Introduction

Turban, Aronson, Liang & Sharda (2007) define Knowledge Management (KM) as the systematic and active management of ideas, information, and knowledge residing in an organisation's employees, defining a Knowledge Management System (KMS) as Information and Communication Technology (ICT) that makes KM available throughout an organization. In other words, KMS are ICT tools (e.g. the Internet, Intranets and extranets) that facilitate the creation, storage, transfer and application of organizational knowledge. Turban et al. (2007) observe however that: "encouraging employees to use a KMS, both for contributing knowledge and for seeking knowledge, can be difficult" (p. 487). This observation happens to be true of students in Makerere

University among whom use of computers and/ or ICT and other KMS tools, has consistently been reported to be low (e.g. Makerere University, 2000; Nassanga, 2001). This failure to make optimal use of KMS by students in the University leads to several undesirable outcomes such as wastage of funds by the University and donors have sank on underutilized or even unutilized facilities (Njiraine, 2000). It is therefore appropriate to isolate the reasons why students in Makerere University are slow to embrace use of KMS. While there could be several contributory factors, theorists on use of innovations (e.g. Kibera, 1997; Rogers, 2003), suggest that organizational characteristics may explain differentials in use of KMS. Hence this study appraising the role of the four organisation characteristics, namely ability to absorb change, KMS culture, size and leader's KMS change management style on use of KMS by Masters students in School of Education in Makerere University.

2 Review of Related Literature

2.1 Organisational Ability to Absorb Change and Use of Innovations

Organisational ability to absorb change, which can also be termed organizational innovativeness or organisational readiness for change, is the extent to which an organization feels the need for change (Magala, 2001). Mullins (2002) observes that although organizations have to adapt to their environments in order to survive, they tend to feel comfortable operating within the structure, policies and procedures which have been formulated to deal with present situations. They thus set up defences or resistance against change and prefer to concentrate on routine things they perform well. According to Nassejje (2001) resistance may take a number of forms such as persistent reduction in output and the expression that there are a host of reasons why the change will fail. Mullins (2002) attributes the resistance to change to organizational culture, the need to maintain stability, the investment in the status quo, the fear to disrupt past contracts or agreements and the threats to power or influence the proposed change implies. Several authors (e.g. Kizza, 2003; Magala, 2001; Nassejje, 2001) prescribe several measures to curb organizational resistance to change. For example Nassejje (2001) advises that a manager can reduce this resistance by creating dissatisfaction in the organization with the status quo; by reducing the fear of change in the organization; and by encouraging participation of all in the change effort; by trying to compensate those affected by the change.

2.2 Organisational Culture and Use of Innovations

Culture, a concept developed from anthropology is difficult to define or explain precisely (Mullins, 2002; Sentamu, 2001). Nevertheless quite a few suggestions

have come up. It has variously been conceptualized as; "how things are done around here"; as the "underlying assumptions about the way work is performed"; "what is acceptable and not acceptable"; "what behaviour and actions are encouraged and discouraged" (Mullins, 2002: 802). Kizza (2003) observes that if change is to succeed in an organisation, one needs to understand the culture that is to be changed. If the proposed changes contradict cultural biases and traditions, the changes will be difficult to embed in the organisation. Since cultures are difficult to change, organizational culture is among the sources of resistance to change (Kizza, 2003; Rogers, 2003). Kizza (2003) discusses several cultural values that facilitate change in organizations including; (i) a manager adopting a management style that allows for devolution of power from the top to the bottom; (ii) convincing employees that there are benefits in accepting change; (iii) achieving commitment to organizational goals through making employees participate in the change process; (iv) ensuring team work where a leader encourages increased participation, information sharing and collective decision making. He also advocates for (v) valuing each employee's contribution to change; (vi) empowerment of employees to release their creativity, thereby promoting change; (vii) ensuring continuous learning, which will ensure organizational survival as it enhances ability to adapt to the environment.

2.3 Organisational Size and Use of Innovations

According to Mullins (2002), organizational size can be defined and measured in different ways, although according to him, the most common indicator of size is the number of persons employed by the organization. Size of an organization may be an important factor in the ability of the organisation to respond to changes in the environment, one of the reasons being that larger organizations have more slack resources set aside to cope with unexpected contingencies (Koberg, 1986; Rogers, 2003). La Rovere (1996) also contends that large firms have clear advantages in use of innovations since they tend to have a smaller rate of indebtedness and hence ability to spend on innovations. He adds that large organisations also have more access to technological information, and thus may be more prone to use of innovations. However, there is an opposing view, which considers large organizations as overly bureaucratic and hence more resistant to use of innovations. In summary, "there is a continuing debate on the comparative advantages of large and small organizations; on whether 'bigger is best' or 'small is beautiful' " (Mullins, 2002: 56) with respect to use of innovations.

2.4 Organisational Leader's Change Management Style and Use of Innovations

Leading change is one of the most important and difficult leadership responsibilities (Yukl, 2002). It is important for managers to understand the reasons for, and nature of, resistance and to adopt a clearly defined strategy for the initiation of change (Mullins, 2002). Rwamukaaga (2001) points out that change management can be subdivided into two approaches, namely planned change and emergency or unplanned change approaches. Planned change is a deliberate pre-meditated move to alter the organisational status. It is change initiated and implemented by change leaders to either solve problems, to adapt to changes or to influence future changes. On the other hand unplanned or emergency change is not a sequential process. It is chaotic and often involves shifting of goals, discontinuation of activities and making of unexpected combinations of changes. For any change process to be successful however, it must be properly managed (Magala, 2001). Mullins (2002) stresses the need for a change manager to use a participatory change style if the change is to succeed, arguing that while in certain situations, it may be necessary to use hierarchical authority to impose change through an autocratic (Theory X) style of leadership, in most cases, change is more effective with a participative (Theory Y) style of leadership, where staff are kept fully informed of proposals, and are encouraged to adopt a positive attitude and have personal involvement in the implementation of change.

2.5 Hypotheses

From the literature, the study hypothesized that each of the following four organizational characteristics, namely (i) ability to absorb change, (ii) KMS culture, (iii) size and (iv) leader's KMS change management style, is positively correlated with use of knowledge management systems.

3 Methodology

Using a quantitative, correlational, survey design, data were collected using a self-administered questionnaire with questions or items on four organisational characteristics, of relevance in this Paper, namely organisational ability to absorb change (four questions: $\alpha = 0.688$), KMS culture (four questions: $\alpha = 0.814$), size (five questions: $\alpha = 0.780$) and leader's KMS change management style (four questions: $\alpha = 0.843$). The questionnaire had 14 questions on use of KMS, conceptualized as use of personal computer applications software (six questions: $\alpha = 0.860$) and use of Internet applications (eight questions: $\alpha =$

0.866). According to Cronbach's Alpha Coefficient Test (Cronbach, 1971), the questionnaire was reliable for the study as all alpha coefficients were above 0.5. Using the said questionnaire, data were collected from a sample of 60 Masters students in the College of Education and External Studies in Makerere University, and analysed using summary statistics (means and standard deviations) and multiple regression.

4 Findings

4.1 Background of Respondents

Of the 60 respondents, the School of Education contributed the majority (53.4%) while the East African School of Higher Education Studies & Development (EASHESD) contributed the rest (46.6%) of the respondents. Ages had a range of 26 years from a minimum of 24 to a maximum of 50 years; arithmetic mean age was 35.1 with a standard deviation of 7.12. Males (63.3%) dominated the sample, while regarding income level, most respondents perceived themselves as being of medium income (61%), followed by 39% of low income and none (0.0%) of high income. Regarding possession of qualification in ICT, the majority (63.3%) held none. With respect to current job, the majority (80%) as expected were teachers (broken as 61.7% teaching at secondary, 10% at primary and 8.3% at tertiary).

4.2 Use of KMS

Use of knowledge management systems (KMS) was broken into two sections, namely six questions on use of personal computer (PC) applications software and eight questions on use of Internet facilities, respectively. Each question or item was scaled in such a way that 1 = Very rarely or never, including never heard of it; 2 = Rarely use; 3 = Neither rarely nor regularly; 4 = Regularly; and 5 = Very regularly. Tables 1 and 2 give respective pertinent summary statistics:

Table 1: Summary statistics on use of PC applications software

Indicator of use of PC applications software	Mean	Rating
Word processing software	3.32	Fair
Spread sheet software	2.07	Poor
Database management software	1.66	Poor
Graphics software	1.86	Poor
Desktop publishing	1.46	Very Poor
Statistical or data analysis software	1.48	Very Poor
Overall	2.02	Poor

Table 2: Summary statistics on use of Internet facilities

Indicator of use of Internet facilities	Mean	Rating
Email	3.59	Good
Web surfing	3.68	Good
Bulletin board, mailing lists, discussion groups	1.82	Poor
Computer conferencing systems	1.46	Very Poor
Video conferencing systems	1.51	Poor
Electronic journals, newsletters	2.38	Poor
Electronic databases	1.64	Poor
On-line library catalogues	2.21	Poor
Overall	2.31	Poor

According to Table 1, among PC applications software, only word processing recorded a fair level of use. Table 2 suggests that among Internet applications, only e-mail and web surfing tended to be regularly used. An overall average index ("KMS" from the 14 questions or items in Tables 1 and 2) had a mean = 2.17, which suggested that the majority of respondents were poor users of KMS, that is rare users of the same.

4.3 Organisational Characteristics

Organisational characteristics of relevance in the study were organisational ability to absorb change (four questions), KMS culture (four questions), size (five questions) and leader's KMS change management style (four questions). All items or questions were Likert-scaled in such a way that 1 = Strongly Disagree; 2 = Disagree; 3 = Neither Disagree nor Agree; 4 = Disagree; and 5 = Strongly Agree. Table 3 gives pertinent summary statistics. Overall aggregates ("Innov", "Culture", "Size" and "Leader") were computed and found to have means that suggested that Masters students in School of Education, Makerere University rated their respective organisations best in terms ability to absorb change (Mean = 3.54); followed by, in terms of KMS culture (Mean = 3.26); size (Mean = 3.14); and lastly in terms of leaders' KMS change management style (Mean = 2.88).

Table 3 Organisational ability to absorb change, KMS culture, Size and Leader's KMS change management style

Variable	Indicators	Mean	Rating
Organisational ability to absorb change	Organisation is change-oriented	3.55	Good
	Organisation is innovative	3.67	Good
	Organisation is progressive	3.75	Good
	Organisation is technologically developed	3.30	Fair
	Overall	3.54	Good
Organisational KMS culture	Organisation believes in sharing of power on KMS	3.34	Fair
	Organisation ensures participations of all in KMS	3.15	Fair
	Organisation acknowledges each individual's contribution to KMS matters	3.12	Fair
	Organisation ensures continuous learning on KMS	3.40	Fair
	Overall	3.26	Fair
Organisational size	Number of staff	3.48	Fair
	Premises	3.03	Fair
	Income	3.07	Fair
	Clients (e.g. students)	3.88	Good
	Number of KMS facilities	2.35	Poor
	Overall	3.14	Fair
Leader's KMS change management style	Organisational head regularly assesses organisation's KMS	3.00	Fair
	Organisational head gives feedback for all, on KMS	2.73	Fair
	Organisational head is a use-of-KMS change agent	3.05	Fair
	Organisational head ensures participation of all, in KMS	2.76	Fair
	Overall	2.88	Fair

4.4 Organisational Characteristics as Correlates of Use of Knowledge Management Systems

Multiple regression analysis of the average use of KMS index ("KMS" from Tables 1 and 2) on the four organizational characteristics ("Innov", "Culture", "Size" and "Leader" from Table 3), yielded the results in Table 4, suggesting that the four organisational characteristics considered, were collectively not good explanatory variables ($F = 0.712$, $p = 0.589$) of use of KMS at the five percent level of significance ($p > 0.05$).

Table 4: Regression of use of KMS on organizational characteristics

Organizational characteristic	Beta, β	Significance level, p
Ability to absorb change	-0.059	0.752
KMS culture	-0.015	0.946
Size	0.210	0.244
Leader's KMS change management style	0.134	0.530

Significances (p) in Table 4 led to rejection of all the four research hypotheses, leading to the inference that none of organizational readiness to change, KMS culture, size and leader's KMS change management style significantly correlated with use of KMS at the five percent level of significance (all $p > 0.05$).

5 Discussion

The study suggested that use of KMS by Masters Students in School of Education, Makerere University was poor, thus corroborating earlier researchers got the same result. For example Nassanga (2001) found that students in the University hardly participated in usage and management of ICT. Now the discussion turns to the respective hypotheses.

5.1 Organisational Ability to Absorb Change and Use of KMS

The first hypothesis of the study, namely that organizational ability to absorb change, positively influenced use of KMS, was not supported. This was against several earlier studies (Nassejje, 2001; Rwamukaaga, 2001; Sentamu, 2001) which all found inability to absorb change (i.e. resistance to change) as a factor inhibiting change in different contexts. The finding was anomalous as it put into question the assertion by Mullins (2002) to the effect that although organizations have to adapt to their environments in order to survive, they tend to feel comfortable operating within the structure, policies and procedures which have been formulated to deal with present situations, thus setting up defences or resistance against change and prefer to concentrate on routine things they perform well. Could it be that the conceptualization of organisational ability to absorb change (Table 3) was inadequate? Future researchers should provide an answer to this question.

5.2 KMS Culture and Use of KMS

The study set out to test the relevance of good KMS culture in enhancing use of KMS, which hypothesis was not supported by the findings. This finding though consistent with a few past studies (e.g. Korpella, 1996), was at odds with a host of others (e.g. Mugweri, 2000; Sentamu, 2001). The finding was surprising as it put into question the theoretical assertion that organizational culture is among the sources of resistance to change (Kizza, 2003). A possible explanation of the unexpected finding could be inadequacy of conceptualization of unit KMS culture since it is said to be difficult to define (Mullins, 2002; Sentamu, 2001).

May be the one used in Table 3 is different from that used by several earlier researchers. Future researchers ought to close this conceptual gap.

5.3 Organisational Size and Use of KMS

The research result disagreed with the initial hypothesis that organizational size was positively related with use of KMS, which was at par with some past studies (e.g. Kanungo & Chouthoy, 1996). Otherwise the study was at odds with several other studies (e.g. Fedoromicz & Gelinas, 1998; Koberg, 1986). The explanation for unit size not being a positive significant correlate of use of KMS by Masters students in School of Education in Makerere University could be that while the School is large and therefore potentially having more slack resources (Koberg, 1986; Rogers, 2003) to buy KMS facilities than smaller faculties and institutes in the University, it is such large organizations that have more people to share these KMS facilities, hence the likelihood of these facilities being few compared to the surging number of staff and students. Another possible explanation could be inadequacy of conceptualization of organisation size given that organizational size can be defined and measured in different ways (Mullins, 2002). May be the one used in Table 3 is different from that used by several earlier researchers. This will be food for thought for future researchers. In the meantime the current finding has strengthened to the contention that "there is a continuing debate about the comparative advantages of large and small organizations; or whether 'bigger is best' or 'small is beautiful' "(Mullins, 2002: 566) in regard to use of KMS. Resolution of whether 'bigger is better' or otherwise as far as innovation adoption is concerned, is calling for further research.

5.4 Organisational Leader's KMS Change Management Style and Use of KMS

Inconsistent with the hypothesis, the study established that goodness of unit leaders' KMS change management style never significantly correlated with use of KMS, a finding at variance with such studies as Kanungo & Chouthoy (1996), Nassejje (2001), and Rwamukaaga (2001), in different contexts. The study thus challenges the assertion that if any change process is to be successful, it must be properly managed or led (Magala, 2001; Mullins, 2002; Nassejje, 2001; Rwamukaaga, 2001), which is surprising. Could the surprising result be due to inadequate conceptualization of unit leader's KMS change management style (Table 3)? Future researchers should provide an answer to this question.

6 Conclusion

None of the four organizational characteristics, namely, ability to absorb change, KMS culture, size and leader's KMS change management style was a significant correlate of use of KMS by Masters students in School of Education, Makerere University, implying that relevant charge agents (e.g. Dean of the School and University's Directorate of ICT Support, DICTS), in their quest to enhance use of KMS by the said students, should provide equal treatment such as exposure and/ or training to all of them irrespective of differentials in their organizations of origin.

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Role and Nature of Research in Development

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Abstract. Research and development are two but inseparable aspects that have to be taken into consideration for any country´s development agenda to be successful. However, in many less developed countries, the uptake of research in development policy formulation and implementation is inadequate. This paper discusses some of the factors underlying the failure of research to influence policy formulation and implementation in these countries. Starting with a brief discussion of the common paradigmatic and epistemological traditions in research, the paper discusses the challenges involved in development research. Thereafter, it makes a case for a mixed methods approach that is deliberately linked to felt development needs.

Keywords: Evidence based policy; Research for Development

1 Introduction

Research is paramount for meaningful development. Without research development efforts would be baseless. Different forms of research may be conducted according to existing needs and expected results. The more rigorous the research design and careful execution the more accurate and reliable are the results. The purpose of this paper is to make an analysis of the role of research in the development arena. In the first section the meaning of research and development is indicated. This is followed by the importance of research in development. The paper further examined the different approaches used in research, and clearly analyzed epistemological issues in regards to their contribution to the need for valid research results. Conclusions and recommendations are drawn basing on the opinion as regards the need for a mixed approach to development research. In this case meanings of various key terms are given. These include research and development. Other key terms are defined later on in the text.

1.1 Research

Many writers have defined research as a process of looking for solutions to solve a problem that may be existent in a given community or country. For research to be initiated there must have been a problem that becomes the driving force to establish solutions that can solve for that existing problem. Research is the search for new and reliable data. New in the sense that it adds to the existing body of knowledge and reliable in the sense that it is based on facts that can be used for policy formulation.

1.2 Development

There may not be a specific definition of development but in reality the term can refer to the effort to make poor people less poor by raising their incomes, and for individuals, to find opportunities to be more productive so as to live better and longer lives, then for an economy as a whole, generating economic growth to raise average incomes and reduce poverty. This description of Development is as an insight from Lecture notes on Economic and institutional Development.

2 Link between Research and Development

There cannot be development unless there is a search for knowledge and skills, for having new ideas and means of establishing gaps that may hinder economic, and social progress. This search for knowledge and skills is the one that enables policy makers determine the right kind of policy to formulate and implement for proper development planning.

If there is no proper research, probably proper development policies will not be in place or if proper policies are in place maybe, they would not be implemented to benefit the right stakeholders. That's why research and development are inseparable given that the failure of research may hinder development.

Since research is considered as the systematic process that enables the generation of desired solutions to given problems, it (research) must inform management so that there is use of appropriate policies for sustainable development. Unfortunately, sometimes the approach taken leaves out the would-be implementers of many development projects. This is usually caused by the fact that top officials fund research and thus they set the research agenda. When this happens, research can neither be appropriate nor a source from where management can be well informed to take sound development programs.

Research in a development arena is a complex reality because it requires different stakeholders, different ideas and a proper environment. In the long run better ideas will bring about economic growth and development. There cannot be sustainable development unless ideas are in place to increase the productivity of capital. Ideas for increasing output must also be researched.

To achieve development, research cannot be done in isolation of those who are well informed about the local setting, in addition to having proper institutions in place to boost investment in physical capital, human capital and technological knowledge (ideas) as indicated by writers from the same link sited above. This is what also Chambers indicated as people paradigm being better than things paradigm that "Many of the errors and failures of development policy and practice have stemmed from the dominance of things paradigm" (Chambers, 2010:13).

The writer shows that top-down standardized approaches and methods were imposed on people from completely different cultures and backgrounds, thus resulting in poor results. That is why progress was realized later on when development programs were shifted to people paradigm.

So for development, a people paradigm will work better than a things paradigm. Ssekyewa (2008) in Scoons and Thompson (1994) indicated that this is participatory and demand driven research. They implied that when all stakeholders are involved, there is a very high possibility of understanding real problems because stakeholders will be informed, and thus appropriate corrective measures would be put in place to solve real problems. In this case one would refer to the African continent as a case where participatory research approaches to research are relevant.

Many so called development projects in Africa have been put in place but without proper research being done to ensure sustainability or cause sustainable development. The major problem causing this is the lack of data and or poor data collection methods.

In relation to that, still Ssekyewa (2008) indicates that many projects have been a cut and paste of the Western world thus making Africa torn apart, implying that "Each development project comes with its own externally advocated technologies often based on development objectives at the source" (Ssekyewa, 2008 1:29-32).

Ssekyewa shows similar observations reported by Paul and Steinbrecher (2003). What usually happens is the failure of these projects to move Africa because the technology used is baseless, not well researched to ensure that it fits the African setting, and therefore leads to no sustainable development but to indebtedness. In the above example therefore, the writer emphasized that

> If Africa is to develop sustainably, she must have her own set development agenda based on real African community needs through cross-culture, multidisciplinary and participatory research, appropriate solutions would be

> found. It is these original findings that would form a base for decision making, which would pivot Africa to development (Ssekyewa, 2008:29-32).

Research is a process, and this process is systematic if it has to yield positive results. That is why in their book "finding out fast" Thomas et al. (1998) indicate that the decisions which may be informed by particular investigations are always part of the continuing development of policy so that, it is best to think of policy as a process.

Policies that go through a process and are based on proper findings will always enable proper implementation strategies and thus sustainable development. However, research must be timely to avoid loss intended focus and opportunities. In this case one may consider research to be both area and time specific. Thomas, et al. (1998) continues to give an insight into the need of investigation for development policy and public action.

> Investigation should not be done for its own sake but for the sake of informing or influencing the actions of one´s own or another agency (Thomas, et al.1998: 15).

This clearly indicates that research should be participatory with all relevant stakeholders having an input into needs identification, priority setting and research planning as well as implementation. Each stakeholder has an influence on the other, hence the need for a participatory approach.

3 Epistemology and Research

From Kunbur & Shafter (2007) epistemology is a branch of philosophy which shows the nature of knowledge. These same writers thus labour to indicate that knowledge can be presented in a given perspective and or approaches like empiricism/Positivism, hermeneutics/interpretive approaches, critical theory/critical hermeneutics, and indicating the importance of knowing the nature and constitution of the external world; Ontology.

When research is empirical, there must be reliable data, this data is evidenced just to be sure of its source, so there should be truth or the information must be valid. Therefore, as an epistemological approach, empiricism is defined as "A branch of philosophy which studies the nature and claims of knowledge" (Kunbur & Shafter, 2006:185-186)

The writers acknowledge this as research approach predicted on an observation-based model for determining the truth or validity of knowledge claims.

On the other hand, Sumner & Tribe (2004) define epistemology as a branch of philosophy that is concerned with the nature, origin and scope of knowledge and how we know what we know.

In both definitions, emphasis is put on what we can know, how true is what we know and or how we can validate our knowledge thus indicating a new paradigm of development involving a social -institutional dimension as a key to interaction with and a process of stakeholders' involvement (top-down participation).

Epistemology is thus important in development research because philosophically we are able to provide credibility of our " knowledge and the framework for a process that will produce, through a "rigorous" methodology […] answers that can be believed to be valid, reliable/replicable and representative/typical." (Sumner and Tribe, 2004:3). This implies that for proper development policies, Epistemology can be highly reliable.

In the development arena, there can be a number of epistemological perspectives but I am going to emphasize positivism and constructivism. These perspectives have differing perceptions of the objectives of academic inquiry and generation of knowledge, as indicated by Sumner and Tribe (2004). However, both are concerned with what constitutes legitimate intellectual goals and practice.

Positivism is then described on the basis of reality and universal truths as being observable. This implies that the researcher cannot in any way influence the results of the research because he/she is expected to be objective, and independent. Positivistic knowledge, therefore, bases on scientific research for the truth and objectivity from scientific experiments using the quantitative approach (Sumner and Tribe, 2004)

On the other hand, constructivism as presented by Sumner and Tribe (2004) in Molteberg and Bargstrom (2002a) is based on the argument that doing realistic research in the world does not happen/exist in isolation of our experiences. We always encounter multiple realities in the research process and these may be intangible, local or specific in nature. Therefore the writers´ argument indicates that we cannot base on a single truth in our research to make a description of what exists in the world. That's why, especially when we are doing academic research we need to include people as informants because they have reliable information of what we need to establish.

Given that many policy statements are based on research, there is a need to have reliably done research, with facts and figures to support the policy implementation and this cannot be done without the support of "Sophisticated, informed and inclusive constructions of the world through the interaction of the researcher and the researched". (Sumner and Tribe in Molteberg and Bargstrom, 2004:5).

Related to the above mentioned importance of constructivism, one would refer to the valley dam project in Eastern Uganda which did not produce any fruits because its setting in the first place was not constructivist. The research that was done to have the valley dams in place was done in isolation of the knowledge of the local people and the Government assumed that these people actually needed the valley dams yet their perception of the same was different. When Government disbursed money to construct valley dams, the inhabitants rejected them and did not allow anybody to do that! These are pastoralists who had the feeling that the aim of constructing valley dams was to take away their cows. So this project did not work moreover a lot of resources had been allocated to it!

Therefore, positivism and constructivism cannot work in isolation of each other. A search for knowledge has to always go through a rigorous process which constitutes all research methods (positivism) but at the same time, this process requires that there is a basic principle that should work and this is looking at the world as a whole and as an open rather than closed entity (constructivism), embarking on participatory research to solve poverty problems is very practical for developing countries.

4 Quantitative versus Qualitative Research

Methods describe the specific approaches applied in carrying out the research and research can either be qualitative or quantitative. This section gives a description of the two approaches, circumstances under which each of these can be used, limitations of each and why researchers need both of these approaches.

As already discussed from the notion of positivism above, and relating to the work of Kombo and Tromp (2006) quantitative research relies on the principle of verifiability i.e. to confirm, to prove, to corroborate or substantiate, yet the feelings, perceptions or values of the researcher are not taken into consideration, except in as far as discussing generated results vis-à-vis ones views is concerned.

Quantitative research is applicable under circumstances when data is numerical and the analysis must be statistical (how many?), like in case of a need to get frequencies or percentages for explaining findings. From the positivistic point of view as presented by Sumner and Tribe (2004) the basis of this research is a reality and universal truth being observable.

On the other hand, qualitative research involves making a description or an analysis of the behaviour of human beings and their related groups, but putting into consideration those being studied (Kombo and Tromp, 2006). This type of research normally takes case studies. Qualitative research is applicable when

the subject being studied is not familiar to the researcher (cause-effect) if there is a need to establish relations, the researcher wants to establish a meaning rather than a frequency and a need to establish the unexpected: it is always in depth. This is a constructivism type of research which emphasizes that knowledge is active and creative. It is a social reality in which issues are analyzed in a social process and discursive strategies so that reality is made stable.

However, the two methods are presented as different in a way that they each have different procedures and different epistemological implications indicating that, "every research tool or procedure is inextricably embedded in commitments to particular versions of the world and to knowing that world". (Bryman in Hughes, 2004:452).

This implies that every research is unique—that these two are different paradigms and thus are, therefore, incompatible. The writer presented two versions, first, of why the two approaches cannot work together and second, of why the two can work together.

1. An epistemological version of why the two cannot work together because each is grounded in a different epistemological principle
2. A technical version of why the two can work together because prominence is given to the strength of data collection and data analysis techniques with which quantitative and qualitative methods are associated.

On top of the two versions presented above, Bryman (2004:455) in Hammersley (1996) goes on with a further analysis of the same to present the logic of "triangulation", "Facilitation" and "complementarity" Thus, indicating that the two methods of qualitative and quantitative can work together because quantitative research can be used in qualitative research findings or the other way round, one research strategy is used as an aid to the other research strategy, and the two research strategies are used such that researchers get the details of their investigation. All that may not be achieved unless the two methods are employed.

Two classifications of approaches to quantitative and qualitative (multi-strategy) research are proposed as one, being of the priority decision i.e. "How far is the qualitative or quantitative method the principle of data gathering tool?" (Bryman in Morgan, 2004:455).

This implies that the two tools can work hand in hand but the researcher must be clear on which his research is strongly founded, then the other facilitates the process.

The second classification is of "the sequence decision" in other words, which method is coming first or last? Is it quantitative or qualitative? Therefore, the researcher has to be aware of his priority setting such that he/she gives it an emphasis and takes the right direction for his/her research.

The implication of all these analyses is that the multi-strategy research is good because both methods can complement each other so as to minimize the weaknesses and maximize the strength of each other.

However, one would ask a question: whether qualitative or quantitative research, what constitutes rigor in a research process?

5 Rigor in Development Research

In their paper on "The nature of epistemology and methodology in development studies", Sumner and Tribe (2004) tackle the issue of epistemology and methodology in development with special care indicating that there is sensitivity of social science methods in development research. This implies that the way we choose to go about research (methods employed) will pose concerns over the validity of that research done, reliability of our data generated, the extent to which results are representative, subjectivity of our research and how we choose to interpret our data.

These can be a problem to the extent of making our research not reliable; implying that the way we choose to do the research should be the bottom line in ensuring validity and reliability of the research. Therefore, from the starting point of identifying a research problem, there must be rigor. Relating to Gutung`s (1967) approach, Sumner and Tribe (2004:7) show that "Each stage leads to the next".

The writers analyze the research process, one step after another and clearly indicate that the process is not an easy one from the start because it gets socially up hazard where the researcher is faced with a problem that is fuzzy, looks for literature on this problem and makes sense out of it.

In addition to that, the rest of the process like research questions should be rigorous and here the writers indicate what a rigorous research question should be that with ability to align the question to a problem, indicate whether similar research has been done already, show clarity on the question, etc.

However this is not an easy task because it requires analytical and critical thinking such that it directs the researcher properly.

Research designs should as well be rigorous because this is the only way to be aware of the kind of answers that the researcher is looking for "qualitative or quantitative or both?" And whether we want "one objective answer or many subjective answers?" (Sumner and Tribe, 2004:11).

This determines the Epistemological methodological approaches to be selected. Important question to ask is whether quantitative methods are more rigorous than qualitative? Summer and Tribe (2002) continue to argue that since there are different settings then there should be different techniques, but

in their analysis, they indicated that quantitative techniques are more rigorous than qualitative techniques because quantitative methods are perceived as less subjective and more tangible than the qualitative

However this argument may not be valid as is also indicated by white given that when qualitative or quantitative methods are used, rigor will only be determined by the techniques applied by the two methodologies such that badly applied qualitative or quantitative approaches could lead to inaccurate conclusions (Sumner and Tribe, 2004)

What constitutes rigor in research for this context therefore is the methodology of the study employed that relates to how different methods are combined, the step-by-step research approach taken to generate research data that can appropriately, perfectly, reliably and with validity respond to the research question in perspective.

Related to the above, a concrete summary of what rigor is, in the context of development studies and research is indicated.

> "[…] rigor in the context of research design consists of the following, of a logical integrated process. The research question leads to a choice of epistemology, leading to a choice of data collection/sources, leading to a choice of data analysis methods […] techniques needed to answer a particular research question have to be selected with great care…" (Sumner and Tribe, 2004:15)

In light of the above therefore, methods are mixed as appropriate, and research follows a systematic approach; and results are disseminated, indicating how, why, and when such methods were employed. Yet if this research can be appropriately defended, it implies that the research was rigorous and this makes it also valid.

But Maxwell (2005) on "how might you be wrong" emphasizes that methods are not the validity; we can do a rigorous analysis and other rigorous approaches in our researches but they (methods) are not the validity in themselves, rather validity is embedded in the conclusions that we make. The writer indicates that validity is not a product, it is rather relational, and no method can capture validity. Validity is based on evidence, not methods so methods just facilitate evidence. This implies that the methods we choose to use should be rigorous enough such that we are able to draw valid conclusions.

6 Conclusion and Recommendations

In conclusion therefore, research and development are interlinked, thus need to be taken holistically. The way we choose to do research depends on our

epistemological inclination so we can choose to do either qualitative or quantitative research, however a mixture of the two would be more appropriate such that the advantages of each are maximized and disadvantages minimized. For whichever methodology taken, there must be a carefully designed step-by-step approach –rigorous in this sense, to allow for validity of our findings and/or conclusions made. Therefore, it is worth recommending that in all development efforts there is need to identify real development needs, prioritize those needs to address those that are researchable, ensure involvement of all stakeholders at all stages, chose to use the most appropriate methods that would yield meaningful results that stand the rigor and depending on research questions set, go for either qualitative or quantitative research approaches.

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Empowering University Students through Physical Fitness for Lifetime Productivity

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Abstract. This paper reports the findings of a study that investigated 252 University of Ilorin students' awareness of the benefits of physical fitness and the need for empowering them for lifetime productivity. Data were collected using a self developed questionnaire and analysed using frequency counts, percentage and chi-square. It reports that students are aware of the benefits inherent in healthy fitness lifestyles and that they know that stress in academics can be reduced and productivity can be enhanced by maintaining a lifestyle of physical activity. Ironically, many of the students were found to be vicarious participants in sports. The students expressed need for a health and fitness facilities.

Keywords: Student services management, Sports, Co-curricula activities

1 Introduction

There is overwhelming scientific evidence highlighting the health, social and psychological benefits associated with an active lifestyle. However, physical activity remains the most underutilized low cost health resource in the world (TraviL, 2003; Adegun & Konwea, 2009). Increased exposure to western lifestyle and eating habits which are characteristics of urban African environment and decreased participation in physical activity are contributing factors to increase in health problems (Adegun & Konwea, 2009). David, (2000) defined the term 'lifestyle' as habits that people choose either voluntarily or involuntarily, which affect health habits in areas such as food (e.g. use of sugars and salts), hygiene, coping mechanisms amongst others. Lifestyle is generally considered as an individual issue and reflects the norms and values the individual holds (Shehu, 2010). There is a need for an individual

to practice a lifestyle involving keeping fit to promote optimal health and mortality.

Education, been defined as the development of an/the individual physically, mentally, socially, spiritually to promote a better individual and society does not just happen, but requires processes for empowering the individual to optimise performance in all aspects of life. A functional studentwill therefore be an individual that is able to perform his or her role optimally without undue fatigue or disease. Aisiku (2005) said there is a need for Altering curriculum in order to promote excellence in education and culture for the new millennium which he defined as teaching content that enables students to engage in and apply critical thinking activities and skills typically left out in general education classrooms. According to Adogbeji and Oghenetega (2006), students of tertiary institutions represent a special group of population who are in their formative years in terms of their career or occupation. Therefore, they need to learn and experience the academic on routine basis. Therefore there is need for university students to include fitness lifestyle in daily routine.

According to Kassam (1988) as reported by (Aluede,2009), the graduate of any Nigerian University would be one who considerably plays his/her full roles in the economic development of the country, participates fully and meaningfully in the social, civil, political and cultural activities of the community and one who lives a self-fulfilling and optimal life style amongst others. He emphasised that every graduate of any Nigerian universities would have been successfully empowered through quality teaching, learning and experiences, to take control over his/her own life and the overall environment. Therefore, one that is not empowered with a healthy fitness lifestyle will be at a risk for mediocrity in job performance.

From the Greek era, it has been well established that a sound mind in a sound body produces a man of wisdom and action (Lumpkin, 2002). According to Adegun (2005), the health level of an individual is determined by the type of lifestyle relating to health, so also, the activities and behaviours of an individual are pointers to his or her attainment in health. Regular physical activity and exercise with the right guidance have been proved to help maintain the functional independence of older adults and enhances the quality of life for people of all ages (Singh, 2002; Lumpkin, 2002). Enhanced physical fitness levels are thought to help an individual's mental state of mind by contributing to an improved mental thought process (Neeser, 2010).

This study seeks to answer the following questions;

1. Are students aware of the benefits of fitness lifestyle?
2. Will Healthy fitness lifestyle of University students have significant effects on academic stress?
3. Will engaging University students in fitness programme promote productivity among them?

4. What are the Physical activity and fitness lifestyle habits of University students?
5. Will there be a need for standard Health and Fitness centre to cater for University students' participation in fitness and sports programme?

2 Methods and Procedure

Survey method of the descriptive research was used to investigate University Students Fitness Lifestyle for a lifetime Productivity. The population for the study was the University of Ilorin Students, while the sample was randomly selected from eight faculties based at the permanent Campus using the simple random sampling technique. The Faculties included Agriculture, Arts, Business and Social Sciences, Education, Engineering, Information and Computer Science, Law and Science. A twenty-three items Self Developed Questionnaire was used to elicit information from the respondents of the above mentioned faculties using 5-Point Likert Scale. In all, 252 copies of questionnaires were found usable out of the 280 administered to respondents. Frequency, simple percentage and Chi-square were used to analyse the responses.

3 Results

Most (62.7%) of the respondents were male while 62.15% fell within the age range of 21-25 years. Only 6 of the respondents were above 31 years of age. Majority (81%) of the respondents were vicarious participants, who enjoy watching football rather than participation.

Table 1: Health and Fitness Lifestyle

ITEMS	SA (%)	A (%)	D (%)	SD (%)	U (%)	χ^2
Awareness of Benefits of Healthy Physical activity Lifestyle.	498 (22.52)	1491 (67.44)	148 (6.7)	36 (1.62)	38 (1.72)	134.65*
Academic Stress and Fitness Activity Lifestyle.	508 (40.32)	431 (34.2)	176 (13.97)	102 (8.1)	43 (3.4)	71.49
Fitness Life style and Productivity	558 (44.3)	479 (38.0)	172 (13.7)	24 (1.9)	27 (2.1)	211.37*
Lifestyle Physical Fitness Activity and exercise Habits	397 (27.3)	386 (26.6)	345 (23.8)	253 (17.42)	71 (4.89)	52.77
Need for standard Health and Fitness centre	173 (30.9)	54 (42.1)	19 (17.1)	0 (0.0)	6 (9.9)	275.65

*Significance- 0.05

3.1 Research question 1

Majority of the respondents agreed and strongly agreed that healthy fitness lifestyle is beneficial while all of the respondents indicated that engagement in regular fitness activities constitutes healthy lifestyle (100%). Most of the respondents also agreed and strongly agreed that physical activity and exercise not only prolongs life (80.9%), promotes mental health (97.7%), reduces the rate of degeneration of the body systems (75.4%) but also could reduce stress (58.3%). Therefore, students are aware of the benefits inherent in Physical activity and exercise lifestyle.

3.2 Research Question 2

Majority (75.4%) of the respondents agreed and strongly agreed that academic work is a major stressor for students while 85.3 % agreed that stress affects academic performance. Majority of the respondents agreed that when stress reduces academic performance increases (80.2%) while 58.7% and 73.1% of the respondents indicated that physical activity and exercise lifestyle can reduce academic stress and exposure of students to factors of fitness lifestyle can improve academic performance respectively. From the above, it is supported that healthy physical activity lifestyle have positive effects on academic stress.

3.3 Research Question 3

Majority of the respondents agreed and strongly agreed that fitness lifestyle promotes productivity(82.9%), reduces medical costs (75 %), that state of mind affects productivity (90.1%), students quality after graduation determines lifetime productivity (85%) while students' exposure to social activities can lead to excellent performance (73.1%). The above indicates that fitness lifestyle of University students will promote excellent performance in their career.

3.4 Research Question 4

Most (56% and 73%) of the respondents engaged in moderate exercise such as brisk walking, jogging, or swimming for 20-30 minutes, 3-5 times a week and walk for at least 30 minutes every day while 36.9% and 37% did not respectively. Only 59.1% of the respondents spent some of their leisure time participating in activities like gardening, tennis, ball games or fitness exercise. However, most of them indicated that their academic work keep them too busy for any physical activity or exercise (56.4 %), too tired after lectures to participate in any extracurricular activity (55.9%) while only 25% agreed that Physical activity/exercise is a waste of time.

3.5 Research Question 5

Majority (90.1%) of the respondents agreed that there is a need for standard health and fitness centre, while only .90% respondents disagreed.

4 Discussion

This study discovered that all the University students are aware of the benefits of physical activity fitness lifestyle. Regular physical activity enhances health and reduces chronic disorders and negative influence on lifestyle (Adegun, 2005). The benefits of physical activity include helping to build and maintain healthy bones and muscles, control body weight, reduce body fat, reduce feeling of depression and anxiety and promote psychological wellbeing. However most people are not inclined to participation in exercises (Adegun and Konwea, 2009). Okunneye (1996, 2002, 2006) supported that level of awareness of benefits of exercise to individuals' health is not completely lacking and that it is high especially among elites, yet they do not get involved. The problem therefore is not really awareness but participation.

Most of the University students agreed that academic work is embedded in stress and that physical fitness active lifestyle will reduce stress and improve academic performance. Hammed, Jimoh and Adesina (2006)'s study corroborated that stress is a cosmopolitan malady of every contemporary person, in the present generation and no one is free from it. They went on to say that stress from observation, affects effectiveness and even precipitate health problems. Smith and Ideho (1980) as reported by Hammed, Jimoh and Adesina (2006), pointed out that stress is as a result of an individuals' inability to cope with internal and external demands which he or she is faced with and these abounds in the university community. Since no student is spared from the impingement of stress, there is need for exposing students to physical fitness lifestyle programme not only to reduce stress but promote better learning environment.

It is supported by the University students that healthy lifestyle will promote productivity in all areas of the endeavour. Physical activity was enjoyed throughout everyday prehistoric life as an integral component of religious, social and cultural expression (U.S Department of Health and Human Services, 1996). Adegun and Konwea, (2009) commented that historically, majority of the populace in Nigeria were farmers, moving from home to farmlands near and far. People were used to hard work, intense and strenuous exertion because life depended on rigorous physical activity both in occupation and recreation. But the advent of western education that resulted to white collar jobs and pleasure seeking life had drastically reduced exposure to physical activity. They added

that the public servants are the set of people affected by the industrial revolution and urbanization which resulted to sedentarism and associated problems. This is now biting deeply into the academia itself.

The study discovered that the University students though, involve in physical activities but not in exercise and fitness programmes. Many of them are vicarious participants who are at the risks of hypokinetic diseases. Hockey (1996) found that the sedentary way of life has a negative effect on the human body and has been associated with hypokinetic diseases like hypertension, obesity, diabetes, low back pain, osteoporosis and cardiovascular disease. These disorders are highly associated with inactivity among people of all ages. Therefore for quality products, Universities need to show special concern for the health and fitness of their students.

Okunneye (2006) pointed out that once individuals secure job, they form Living pattern that is exclusive of exercise regimen and once exercise habits is not formed early enough, the practice becomes difficult at adult age, hence the need for mobilisation of University students towards healthy fitness pattern of life.

The University students concluded that there is need for a standard health and fitness Centre. When Facilities and equipment with the right atmosphere are on ground, students would be motivated to divert their pent- up emotions and aggression towards a rewarding course of a lifetime quality performance. Adogbeji and Oghenetega (2006) supported that students in tertiary institution can be motivated by peer group, facilities, and equipment, personnel, lecture schedule and so on. Griffith (2001) added that the key factor that influences participation is accessibility and mobility. When motivating provisions are made at students' reach for recreation, students will be refined in such a way that they will socialise positively and their health will be improved upon through organised fitness activities.

5 Conclusion and Recommendations

Based on the findings of the study, it could be concluded that university communities should have special concern for their students, by imbibing health and Fitness culture into their programmes in order to empower their students for lifetime productivity. Adequate facilities and equipment should be provided for accessibility and mobility. Based on the above findings, the following recommendations are made:

1. All Universities should develop a workable fitness programme for all categories of their students.

2. There should be forum such as symposium, seminars, workshops in the University where students would be properly educated on the beneficial effects of physical activity and fitness lifestyle.
3. Sports, Games and Aerobic Dance associations and Clubs should be inaugurated and each university student be made to register per session in any area of interest.
4. Fitness and Recreation Centres should be located in strategic areas on the campus to motivate University students towards participation.

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Revisiting the Cause of Death in a Student-Police Violent Face-Off

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Abstract. Student activism is a common feature of higher education systems worldwide. However, in Nigeria, as in many other countries, student activism is commonly met with stiff resistance from the police and other law enforcement agencies and fatalities are not uncommon. The problem is that responsibility for the consequences of student-police standoffs is characteristically controversial. This paper discusses this controversy with specific reference to deaths of Nigerian students in clashes with the police during demonstrations and related activist efforts. Starting with a brief examination of student activities in Nigeria that involved student deaths, the paper discusses medical and legal concepts related to death and responsibility for the same. This is with the conclusion that a medical-legal approach to the definition of death and apportionment of responsibility for the same is a more functional way of solving some of the riddles and mysteries of criminal prosecution for homicidal offences posed by unnatural deaths.

Keywords: Student activism, Student management, Nigeria

1 Introduction

There has been a catalogue of student-police confrontations on the campuses of many educational institutions in Nigeria. Some of these avoidable incidents resulted in very bloody clashes. Unfortunately, the students have always suffered heavy casualties. The first of such incidents happened in the premier University of Ibadan in 1971. The Ibadan "aluta" crisis of 1971 claimed the life of Adekunle Adepeju, an undergraduate in the university. Then the University of Lagos crisis led to the death of Akintunde Ojo another promising undergraduate1978. The University of Ife, Ahmadu Bello University, University of Jos, University of Maiduguri and several other tertiary institutions of learning had their fair share of violent crises in the next two decades that followed. One notable feature of these crises is the tragic deaths that have

trailed the frequent clashes between students of higher institutions and law-enforcement agents in Nigeria.

2 The Problem

One of the most tragic of such incidents happened on Sunday the 7th of June 1981. About 10,000 - strong students of the University of Ife (now Obafemi Awolowo University), embarked on a mass protest march from the university campus towards the centre of the ancient city of Ile-Ife. They carried placards protesting the death of an undergraduate student of the institution. They alleged Bukola Arogundade was a victim of ritual murder which they believed is a pastime of the culture-rich immediate community. The Students' Union leaders of the university in an earlier address had issued an ultimatum to the local police authority to produce the body of slain Bukola Arogundade and offer an explanation on the circumstances surrounding the death of the young man who was suspected to have been a victim of ritual murder.[1] After covering about 5-kilometre stretch in the mass protest march from the university main campus towards the city centre, the students ran into the barricade of a detachment of anti-riot (mobile) policemen at a Mayfair Bus Stop on the main road into the city where they were forcefully dispersed.

The police allegedly dispatched canisters of tear-gas (or perhaps some live ammunition) to confront and violently resist the students and their "mass onslaught" on the city. In the stampede that followed, four undergraduates (three ladies and a male student) were killed on the spot. Their bodies were picked up among the rubbles that littered the roadside after the clashes. The cloud of controversies surrounding the incident however remained unclear several months thereafter. While the students claimed they were victims of police brutality on innocent and harmless peaceful protesters, the police authorities on the other hand, claimed to have acted professionally with least resistance. The students alleged that live ammunition was released on defenceless peaceful undergraduates. The police insisted that mere methods of crowd control were employed without any life ammunition and that the victims suffered from unnecessary panic. The actual cause of death of the victims became a most hotly debated controversy. The mysteries surrounding the casualties became a knotty medico-legal problem.

[1] The headless body of Bukola Arogundade, who had earlier been declared missing, was found abandoned in the city centre

A Panel of Inquiry was set up to unravel the mystery behind the tragic deaths. At its sitting, opinions were divided on the actual cause of death. While the police insisted that the casualties were victims of unnecessary panic and accidental electric shock resulting from their body contact with a nearby electric-wired signpost, most members of the public were not convinced that the students were not victims of police naked brutality. Medical report became necessary to establish the actual cause of death. As it turned out, the panel in its report leaned heavily on forensic evidence placed before it, which outcome was widely condemned by the general public.

3 Riddle of Mysterious Deaths

In the absence of a widely acceptable definition, death prima facie raises a conceptual problem. More complex problems are likely to surface when the death is unnatural. Generally, unnatural death refers to such deaths, which are not clearly explicable or attributable to natural causes, and it includes a death occurring in such circumstances as to raise a suspicion of criminality. While a natural death is one which is attributable to natural causes.

One of the most tasking aspects of criminal prosecution has to do with unravelling the mysteries of unnatural death. Often, the complexity of the multi-dimensional problem is traceable to the conceptual confusion about the meaning and cause of death, hi as much as it is desirable to have a concise definition of death in law, and identify its precise cause in particular cases, judges have thoughtfully refrained from adopting a straight-jacket phraseology that is capable of inhibiting medical men in their quest for improved scientific methods.

4 When is a Person Dead in Law?

For many years, doctors have defined death in terms of cessation of the heartbeat. It is now generally accepted in the medical profession that the ascertainment of "brain death", and not the cessation of heartbeat, constitutes the right diagnosis of death. This proposal is based on the "test of irreversibility".

The courts, while trying to frame legal standards for the determination of death, have tried to keep in line with current medical practice. The result of course is unpredictability. It seems regrettable that the law is inclined in the same direction of changeable medical diagnosis despite the obvious far-reaching legal implications in cases of succession, insurance policies and

homicide (areas in which precision and predictability are highly valued). Though judges have actually lagged behind in keeping pace with frequent scientific changes, it is quite understandable in view of the fact that legal standards are usually expected to be stable, certain and relatively time-tested.

As at now, there is yet to be a statutory definition of death in most common law jurisdictions. In fact the English Criminal Law Revision Committee, while considering the adoption of a statutory phraseology observed as follows:

> We must be extremely hesitant about embodying in a statute (which is not always susceptible to speedy amendment) an expression of present medical opinion and knowledge derived from a field of science, which is continually progressing and inevitably altering its opinions in the light of new information.[1a].

This caution explains why the brain death proposal has not crystallized in most common law countries.

4.1 Brain Death

One of the interesting aspects of the "brain death" proposal is that it is the most scientific so far. It concentrates on the brain. Medical men are now agreed that it is logical to use the brain, which controls the heart and lungs, as a measure of death. This practice led to the concept of brain death.

The brain is undoubtedly one of the most complex organs, but its condition may be taken in isolation of the heart. Take the example of a patient who suffers from cerebral anoxia (deprivation of oxygen or hypoxic damage). In such a case, though the heart may be sustained in a state of animation, the brain cannot recover[2]. This is obviously an irreversible state and forms the right diagnosis of death.

The brain death proposal calls for an understanding of the brain in its separate compartments. It should be noted that there are different functional regions within the brain, viz: (i) the cortex; (ii) the thalamic region; and (iii) the brain-stem. Each of these compartments of the brain varies in their resistance to oxygen deprivation. The cortex is the most sensitive and is responsible for the intellect or humanizing function of the brain. The next is the thalamic region which is responsible for our animal behaviour. The last is brain-stem which

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1a CLRCL Fourteenth Report, Offences Against the Person, Comnd. 7844 (19800. HMSO para.

2 See Lin Choro V Camden and Isligton Area health Authority (1979) 2 AII E.r. 910;
Skegg P.D.G. (1974) Irreversible Comatosed Individuals: Alive or Dead? Cambridge Law Journal, 130:

regulates the basic functions of the body, including respiration. Varying degrees of oxygen; deprivation leads to varying degrees of brain death. The condition regresses from intellectual deterioration to the suppression of all functions, save the capacity to remain alive (otherwise known as the "Persistent Vegetative States" or PVS). Opinions are divided on whether a hopelessly comatose patient in PVS is alive or dead.

If death must be an absolute concept, then the body is not dead unless the whole brain is dead. The part of the brain which is most resistant to oxygen deprivation is the brain-stem, so the attending physician will usually give an oxygen therapy. The condition of a patient will not degenerate once oxygen is provided .But since the effect of cerebral anoxia can only by measured in degrees, not in stages, the brain cannot recover from such damage. Thus "brain-stem death" merely but sufficiently completes the process in the irreversibility of the brain. Doctors now insist that a simple diagnosis of the brain-stem (not the heartbeat) will show whether the patient is dead or alive.

It seems that until the law evolves a definition of its own, one may have to rely on current medical opinion on the cessation of life.

What is however certain is that death must be a process, and it is better not to adopt a legal definition, which will be inimical to the ordinary standards of medical practice.

4.2 Death on the Ventilator

The ventilation machine, by which the doctor maintains a percussion of the heart, is a welcomed innovation for treating hypoxic damage. But it is also a source of worries. Though translation of the victim's organs is thereby greatly enhanced so that the doctor may get the "best possible" organ, yet serious legal problems are generated. Of course:

> Since there are different indications of ventilator withdrawal, British judges have perhaps been ingenious, rather than evasive, in failing to define death in legal terms.

In the U.S., a Kansas statute provides that:

> A person will be considered medically and legally dead if, in the opinion of a physician, based on ordinary standards of medical practice, there is the absence of spontaneous brain function...[3]

Ironically, though this is a relatively bold attempt, yet it goes no further than the common law inclination of trailing medical standards *ad infmitum*

4.3 Ascertaining Death in Homicide Proceedings

In proceedings for a crime of homicide, it is usually necessary to establish *inter alia* some of the following facts, i.e. (i) the death of a deceased which is the

subject of the criminal prosecution; (ii) the identity of the deceased; (iii) the cause of death; and (iv) that the cause of death is referable to the accused. Medical evidence is desirable, though not essential to prove beyond reasonable doubt that the death of the deceased was caused by the act of the accused.

In establishing the occurrence of death, the court will most usually depend on medical report or testimony. Where the deceased had been admitted in hospital prior to his death, ordinarily, a death certificate will reveal some medical facts. This will be useful evidence, but always subject to further scrutiny. For instance medical records, which show that the deceased suffered "anoxia", call for further explanation. It is common knowledge among medical men that deficiency of oxygen occasioning death may be traced to a number of factors, some of which are: (i) lack of oxygen in the inspired air within the lungs—anoxic anoxia or asphyxia; (ii) failure of the blood to absorb oxygen—anaemic anoxia; and (iii) inability of the tissues to take oxygen e.g. due to cyanide poisoning—histotolic anoxia.

These are medical facts which fall short of disclosing the cause of death in terms of criminal liability. Thus the death certificate merely goes to establish the fact of death, not the real cause of it. Further evidence may therefore be sought to establish the cause of death. For example, the doctor who attended the deceased may be summoned to testify in court. On most occasions, preliminary inquiries about the cause of death would have been conducted before the murder trial.

4.4 Primitive Investigation

In primitive societies, due to the absence of techniques of medical research, criminal investigations especially for the most serious offences, were based on a "trial by ordeal".[6] Niki Tobi noted that the ordeals took different forms and dimensions, most of them uncouth and indecent, also no less barbaric. Elias, writing on the different types of ordeals said:

> The ordeal might take the form of the juice of a tree (e.g. sasswood) mixed with water, or a burnt powder made from it and dissolved in water; a knife or other piece of iron might be heated in a fire; the culprit might be taken to a nearby pond or stream. The guilty one is he who drinks the water and becomes sick, handles the red-hot knife and gets burnt, or sinks when immersed in the water.

Penwill [8] observed in respect of the Kamba that "these ordeals are mostly used, in what English Law could classify as criminal cases, often theft or murder when the culprit is unknown". In a particular community, suspects were taken to the shrines of the local gods where evidence is taken on oath. Each suspect was taken through the rigour of muttering curses on himself, and the gods are thereby invoked. It was believed that the curses would take their effect on the

culprit within seven days. Any form of misfortune befalling any of the suspects directly or indirectly within a short while thereafter was easily taken as vindictive of the gods and a retribution for the crime committed. In some other places, the suspects were forced to swallow prepared concoctions, banished from society or detained and kept incommunicado until the oracles have been consulted and the gods appeased. Thus, the detection of crimes and criminals in traditional societies were rather metaphysical and religious, not scientific.

The harrowing experiences which most suspects went through by the "ordeal" were not only crude but at best repulsive to the sense of justice of the civilized man. The evolution of modem techniques of investigation is however a positive development in our contemporary age of civilization. Recent breakthroughs in the fields of forensic medicine, pathology, psychiatry and so on lend credence to this view. Human tissues can now be refrigerated and preserved for future laboratory use. Where the corpse had earlier been interred, it may be exhumed and sent for forensic tests.

4.5 Coroner's Inquest

A coroner's inquest [9] is a judicial inquiry into the circumstances surrounding sudden, violent is or unnatural deaths. The coroner is an officer (usually a magistrate) appointed by the Governor, and assisted by police or administrative officers, to inquire into the circumstances surrounding the death of a deceased person.

Since every death is expected to be certified by a registered medical practitioner, medical records will indicate whether the death is related to a natural or unnatural cause.

A natural death should be recorded for the deceased where upon examination, the medical practitioner is satisfied that the cause of death is due to diseases that are known to medical science. Such diseases include hypertension, diabetes, pneumonia, cancer, stroke, cholera, and so on. In any case of a natural death, a further investigation is unnecessary unless it is called for or insisted upon by a dissatisfied person.

Usually, the following classes of death call for and must be investigated by a Coroner's inquest:

sudden, unexpected deaths, e.g. sudden death where death certificate is not available from attending physician; also all deaths occurring in hospitals within twenty-four hours of the deceased's admission;

1. all deaths associated with road traffic accidents;
2. all deaths associated with domestic and industrial accidents;
3. all deaths associated with violence;
4. deaths arising from poisons or privation, even where the cause of death seems to be known;

5. deaths in prisons or detentions e.g. police custody;
6. deaths from industrial diseases;
7. any death in any way associated with homicide;
8. any death where the relatives of the deceased or the public request for an inquest.

4.6 Post mortem Examination

A mysterious death, or one under inquest, will require a post mortem examination of the person of the deceased to ascertain relevant facts. This is actually the province of forensic pathology. The first step is external examination of the physical features. Anything that can lead to a proper identification of the deceased is relevant.

Clothing marked by blood stains or showing tears, cuts and perforations are preserved as vital and real evidence. A further systematic observation of the body may reveal other abnormalities like body wounds or marks in the form of lacerations (body tear), abrasions (wearing away of skin), bruises, contusions, burns and incisions. Orifices (e.g. the mouth and genitalia) are to be specifically examined and observations are useful evidence in substantiating inferences of assault, resistance, rape, strangulation and so on

Post mortem examination will include internal examination. A morbid anatomist starts by dissecting the body in a careful mid-line incision commencing from the chest. The incision is carried longitudinally upwards and downwards until the internals are freed. Specimens of the stomach contents and other relevant pathological organs or tissues are collected for further forensic examination.

The relevance of autopsy in the administration of criminal justice cannot be over-emphasized, especially as regards crimes of homicide. An autopsy report is vital to the coroner's inquest and is useful in preventing a miscarriage of justice. This is particularly so in some murder trials and even where the circumstances surrounding death can be deduced from a casual observation of the corpse, yet autopsy may reveal that there are more than meets the eye. Resolving complex legal problems have depended on the availability of medical finding, as it is often the case that delays in criminal trial is due to the delayed results of forensic tests.

Proceedings in the coroner’s court are designed to establish the facts surrounding the death. The identity of the deceased is ascertained in case this remains unsettled. The place, date and time are likely to constitute a hindrance to the smooth administration of justice.

Developments in medical technology and forensic medicine have had their impact on our once familiar terminologies and the vocabulary of the law of crime our criminal justice system should be adaptable to embrace new

techniques which are tended towards its enhancement. It is our proven conviction' that a medico-legal approach is a more functional and acceptable way of solving some of the riddles of unnatural deaths and unravelling the mysteries of criminal prosecution for homicidal offences. This is the position being explained in this paper.

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Perceived Quality of Infrastructure in Selected Nigerian Universities

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Abstract. This study investigated the place of infrastructure in maintaining quality in Nigerian universities. Using a 20-item self designed questionnaire and Available Infrastructure Checklist (AIC), data were collected from a random sample of 800 final year students drawn from federal (300) and state (500) universities in the country. The data were analysed using the t-test statistic and descriptive statistics. It was found that there is no significant difference in infrastructural development between the state and federal universities. Thus, it is recommended that government increases funding towards development of the infrastructure. It is also recommended that universities adhere to appropriate standards of infrastructure maintenance and enrol only those students for whom they have adequate facilities.

Keywords: Management of educational resources, Quality assurance

1 Introduction

Education has for long been recognized as a panacea for nations' ills. This is especially true of higher education. A good higher education system is required for the overall prosperity of a nation. However, in Nigeria, tremendous growth in the higher education sector has made the administration of higher education institutions complex. As the pinnacle of the educational pyramid, the country's universities have critical capacity building roles to play. Greater attention is being focused on quality assurance as a critical factor in ensuring educational relevance. Cabal (Oni and Alade, 2010) posits that the objectives or goals of establishing a university differ from one society to another. Generally, it is a basic assumption that universities are, by definition and long established tradition, meant to be places where all learning activities are governed by creative scepticism, constant questioning, disputations and argumentation. The

National Policy on Education (2004) relates the relevance of higher education to:

- contributing to national development through training high level manpower;
- developing and inculcating proper values for the survival of the individual and society;
- developing the intellectual capability of individuals to understand and appreciate their local and external environments;
- acquiring both physical and intellectual skills which will enable individuals to be self-reliant and useful members of the society;
- promoting scholarship and community service;
- fostering national unity; and
- promoting national and international understanding and interaction.

Overshooting the carrying capacity of most Nigerian universities is foiling the realization of these objectives. Adedipe (2007) described carrying capacity as the maximum number of students that a university can sustain for quality education based on its human and material resources. Therefore, infrastructure is among the important operational inputs into any instructional programme. It constitutes elements that are necessary for teaching and learning; and is vital in the development of qualitative university education. Ejiogu (1997) noted four important factors in an attempt to balance the qualitative and quantitative growth of the education system in Nigeria. These range from the quality and number of infrastructure (in forms of buildings, machinery and equipment) through the usage to maintenance of the infrastructure. Okebukola (2005) pointed out that the stress put on the universities in terms of demand and the limited expansion in physical facilities and academic staff to cater for this demand has taken a great toll on the quality of programmes in the institutions. Subair (2011) thus submitted that the quality of output (graduates) is a function of infrastructure that determines the students' learning environment and their motivation to learn. Therefore, if quality is to be ensured in the nation's universities, the infrastructural base of the system needs to be improved upon.

1.1 Problem

Studies have reported that infrastructural resources required for production of effective education process is in short supply in Nigerian universities. Lecture halls, laboratories, students' hostels, library spaces are grossly inadequate. The available few are fast dilapidating. National Universities Commission (2004) in the communiqué of the presidential visitation panel that looked into the operations of federal universities between 1999 and 2003 reported that physical

facilities at the universities were in deplorable condition. It is saddening to note that the equipment for research, teaching and learning are either lacking or very inadequate and in a bad shape to permit the universities the freedom of embarking on the basic functions of academics. There are no facilities for effective practical learning for the students in most courses, especially in the universities of Technology, which require a lot of intensive training in terms of students' usage of their psychomotor skills and hi-tech equipment. In fact, when universities face the NUC accreditation exercise, it is shameful to observe that in order to scale through the hurdles of the exercise, some departments will have to borrow equipment from neighbouring and sister institutions, present them and claim their ownership. With the remarkable increase in the number of universities and university enrolments, it becomes worrisome that the tremendous increase in placement may not correspond to the state of available physical infrastructure. By implication, Nigerian universities are under the siege of decay. To this end, this paper is considered relevant to find out the impact of the infrastructural conditions on quality assurance in Nigerian universities and to also see the workability of some innovative approaches in maintaining the available few infrastructure facilities.

1.2 Questions

1. What is the level of infrastructural development between the federal and state universities?
2. How do students rank the available infrastructure in the Nigerian universities?
3. Is there any maintenance culture put in place for the available infrastructure in the universities?

1.3 Hypothesis

There is no significant difference in the level of infrastructural development between federal and state universities.

2 Review of Related Literature

2.1 Definition of Infrastructure

A survey of literature shows that several concepts have been used to explain infrastructure. Among such concepts are the "school plant", "learning resources", "physical resources" and "educational resources", to mention but a

few (Subair, 2008; Ehiametalor, 2001). In specific terms, Ehiametalor (2001) described infrastructure as the operational inputs of every instructional programme and constitutes elements that are necessary for teaching and learning. Such include buildings, laboratories, machinery, furniture and electrical fixtures. These must be functional in relation to other aspects of the community, such as health centres, libraries, and good roads and must be large enough to allow for expansion as enrolments expand. In the same vein, Osagie (2003) opines that infrastructure represents the aesthetic picture of the school conveyed by the position of structures in relation to one another. It also represents the empirical relevance of the totality of the school environment for the realization of the school business (teaching/learning). He asserted in specific terms that school plant is made up of landscape, trees, lawns, hedges, and accompanying paths, playgrounds, buildings, security facilities and utilities. However, a well-equipped and well-maintained physical plant can make learning a more pleasant experience and discourage early drop-outs. It can as well attract better quality teachers. In summary therefore, infrastructure can be viewed as the totality of all that goes into education such as classrooms, lecture theatres, laboratories, libraries, electricity, water, health centre, sports and recreation centres, ICT, machines and furniture put there-in, with the intention of facilitating teaching-learning.

2.2 Quality Assurance and its Process in University Education

Many definitions of quality in education exist, testifying to its complexity and multifaceted nature. It is a multidimensional concept, which encompasses all the functions and activities in schools. Arikewuyo (Adegbesan, 2011) views quality as what could be judged by both its ability to enable students to perform well in standard examinations and relevance to the needs of students, community, and the society as a whole. He concluded that quality serves as determination of graduation based on standard of excellence beneath which a mark of inferiority is imposed and above which grades of superiority are defined. Similarly, quality assurance in the university system implies the ability of the institutions to meet the expectations of the users of manpower in relation to the skills acquired by their outputs (Ajayi and Akindutire, 2007). Therefore, quality education can be an improvement on all aspects of learning and ensuring excellence so that recognizable learning outcomes are achieved by all learners, especially in literacy, numeracy and essential life skills. In other words, quality education should provide learners with essential skills necessary for wholesome development and responsible living.

Assuring the quality of education provision is a fundamental aspect of gaining and maintaining the credibility of higher education programmes, institutions and systems worldwide. Quality assurance is designed to prove and

improve the quality of an institution's educational methods; and outcomes. In a similar view, Alele-Williams (2004) defines quality assurance in any educational institution as that which indicates the pre-eminence and special features that make the institution distinct from other institutions.

Consequent to the 2004 report of the National Universities Commission (NUC), a university regulatory body in Nigeria, on the universalization of quality assurance in higher education, universities were ranked in terms of their productive functions and relative efforts on their product. In this report, no African university was among the first 200 across the globe. Since this development, the NUC has heightened its efforts in standardizing the quality of university education in Nigeria. According to Adedipe (Oyebade, Oladipo and Adetoro, 2007), the universities and the NUC have a shared onus in addressing the following key areas that are relevant to establishment and maintenance of quality, which are:

- Minimum academic standard
- Accreditation
- Carrying capacity and admission quota
- Visitation
- Impact assessment
- Research and development
- Publications and research assessment
- Structures, infrastructures and utilities

Within institutions of higher learning, use of external examiners, self-evaluation and academic audits are the most common forms of quality assurance processes. Institutions readily accept self-assessment because it empowers them and their staff to take charge of the quality of their performance without the pressure usually associated with external reviews. Self-assessment also helps institutions to identify their own strengths and weaknesses, while generating awareness of key performance indicators. As noted above, it is the process of self-assessment that is widely seen as the most valuable aspect of quality assurance processes. The capacity-building function of self-assessment is particularly important in Nigeria where it remains imperative. Quality assurance therefore serves a variety of purposes but primarily is the effort to ensure credibility and improvement (Oderinde, 2004; Okebukola, 2010).

2.3 Infrastructure and Quality of University Education in Nigeria

Qualitative university education constitutes the pivot on which the development of any nation is based. Therefore, proper and correct acquisition of knowledge

by the citizens of any nation is fundamental to its growth and development. The need for infrastructural support was highlighted by Benya (2001) and Subair (2008) who said, high quality university education and training requires that appropriate infrastructure be provided by the institution. All students deserve safe, technology-ready facilities designed for learning and adequate decent facilities, structured around their learning needs. More importantly, completion rate and satisfaction with the university programmes are closely related to the infrastructure that can be provided. School buildings that can adequately provide a good learning environment are essential for students' success. The bridge between good infrastructure and effective student learning is of great importance. Looking closely at a university system, there is no doubt that infrastructure play a great role in the welfare of students and the result is motivation to learning.

2.4 Infrastructure and other Dimensions of Quality

The quality of buildings may be related to other institutional quality issues, such as the presence of adequate instructional materials and textbooks, learning-teaching conditions for students and teachers, and the ability of teachers to undertake certain instructional approaches. Such factors as on-site availability of lavatories and a clean water supply, classroom maintenance, availability of space and furniture, all have an impact on the meaningful learning. Quality assurance of the institutional facilities can only be guaranteed if basic conditions and guidelines are followed from the onset. Basically, this means that infrastructural development must make provision for adaptability or alteration probability, flexibility in user demands, accessibility to students, staff and society and due regards for aesthetic and clean environment. Salis (2002) developed a quality indicator checklist which shows what the physical environment and facilities in higher educational institutions must require both in qualitative and quantitative terms. These include availability of infrastructural development programmes (facility provision), adequacy of the facilities in terms of currency and relevance to purpose; students friendliness and centeredness of the facilities (attractive to students and suitable for their needs); regular maintenance and renewal of the dilapidated ones; the infrastructural development must be of international standard (globally acceptable) to attract foreign students, staff and recognition; and must be environmentally safe and of high sanitary standard.

3 Methodology

A descriptive survey design was adopted for this study. All universities in south-west Nigeria formed the population of study. After due consideration for ownership and curriculum statuses, four universities, two federal (Obafemi Awolowo University, Ile-Ife and University of Lagos, Akoka) and two states (Osun State University, Osogbo and Lagos State University, Ojo) were selected for the study. The subjects included 300 and 500 randomly selected final year students from federal and state universities respectively, giving a total of 800 sample size. The distribution is presented in Table 1.

Table 1: Distribution of Respondents by Institution and Faculty

Institution	Ownership	Faculties	
		Engineering	Sciences
University of Lagos	Federal	75	75
Obafemi Awolowo University	Federal	75	75
Lagos State University	State	125	125
Osun State University	State	125	125
Total		400	400

Justification for this selection was based on the level of maturity and independent mind the student would have attained. Two faculties (engineering and sciences) were used for this study. Their selection was based on their need for infrastructure and other materials capable of enhancing technology-driven national development. The multistage, cluster and simple random sampling techniques were adopted to select the chosen number of respondents. A 20 item self designed questionnaire titled "Infrastructure and Quality Assurance Questionnaire (IQAQ)" and available Infrastructure Checklist were used for data gathering. To determine the reliability, the Pearson Product Moment Correlation statistic was applied and a correlation index of .76 (Cronbach's Alpha) was obtained. Descriptive statistic was used to answer the research questions and t-test was used to test the hypothesis at the .05 level of significance.

4 Findings

4.1 Level of Infrastructural Development

Table 2: Availability of Infrastructure in Nigerian Universities (n = 800)

Items	Mean	SD
My university has enough classrooms and well equipped laboratories	2.07	0.67
I enjoy recent books, journals (print & electronic) in my school library	3.09	0.71
I am taught by seasoned lecturers with relevant teaching aids	3.46*	0.72

My university has adequate ICT facilities	1.84	0.87
University offers accommodation with reliable power and water supply	2.09	0.69

Table 2 shows the mean values of available infrastructure in the sampled universities. Most students disagree that adequate infrastructure are available in the universities. However, they are cognizant of the fact that academics who form part of university human resources are putting in their best to ensure effective teaching-learning activities despite the hostile working environment. This is evident from the highest mean score of 3.46 and 1.84 to show the hostility of working environment. Therefore, it can be inferred that there are inadequate infrastructure in the universities.

4.2 Students' Ranking of the Infrastructure in their Universities

Table 3: Ranking of Available Infrastructure in the Federal and State Universities

Items	Federal Universities (N=300)			State Universities (N=500)		
	Mean	SD	Rank	Mean	SD	Rank
Libraries	4.95*	0.94	1	2.51	0.25	2
Electricity/water supply	3.53	0.76	2	4.98*	1.42	4
Buildings/furniture	3.33	0.32	3	2.76	1.33	3
Laboratories/workshops	1.70	1.34	4	3.42	0.63	1
Toilet facilities	1.58	1.37	5	1.33	1.02	5

Table 3 shows the mean ranking of available infrastructure in federal and state universities. As indicated above, students from both Federal and State Universities ranked toilet facilities as the least item affecting their learning. However, students in federal universities ranked libraries, electricity/water supply, and buildings/furniture as numbers 1, 2 and 3 respectively as affecting their learning directly whereas; laboratories/workshops and toilet facilities were ranked numbers 4 and 5 respectively as having least significant effect on learning activities. On the other hand, students from state universities ranked laboratories/workshops, libraries and buildings/furniture as numbers 1, 2 and 3 respectively as affecting their learning activities. Also, electricity/water supply and toilet facilities were ranked 4 and 5 as having least effect on learning. Further analysis of the data shows that libraries, electricity/water supply, and buildings/furniture have comparatively higher mean scores of 4.95; 3.53 and 3.33 when compared with mean scores of 3.42; 2.51 and 2.76 obtained for libraries, electricity/water supply, and buildings/ furniture from federal and state universities as having effect on students' learning. Again, laboratories/ workshops has the highest mean scores of (4.98) in state universities with toilet facilities having the lowest mean scores of 1.33; while libraries has the highest

mean scores (4.95) and toilet facilities, with 1.58 has the lowest mean score in federal universities.

4.3 Culture of Maintaining University Infrastructure

Table 4: Maintenance of University Infrastructural Facilities (n = 800)

Items	Mean	SD
Teaching equipment are obsolete and need adequate maintenance	1.86	0.68
Facilities are regularly monitored and maintained	2.70	0.79
There is frequent inspection of laboratory equipment	3.45	0.57
Dilapidated structures are adequately repaired	2.45	0.81
Obsolete library materials are frequently replaced	2.55	0.74

Table 4 shows the mean scores on the level of maintenance on universities' infrastructural facilities. Students agreed that existing equipment for teaching and research are obsolete and need adequate maintenance (mean = 1.86, 2.55). By implications, there is no good maintenance practice put in place for the available infrastructure in the universities.

4.4 Test of Hypothesis

The hypothesis stated that there is no significant difference in the level of infrastructural development between federal and state universities. It is evident from Table 5 that there is no significant difference in the level of infrastructural development between state and federal universities.

Table 5: Differences in level of Infrastructural development

University Type	Mean	SD	N	T-Value	T-Critical
State	14.68	2.407	800	2.309	1.960
Federal	14.31	1.874			

*Significant, df=798, P= .05

This finding is not surprising because the situation in both state and federal universities appears to be the same. Without adequate physical facilities, one begins to wonder how effective teaching and learning will take place. Consequently, quality is also at stake. For quality university education to be realized, the essential infrastructure must be available in required quantity and quality.

5 Discussion

The results obtained revealed that the quality as well as quantity of infrastructure in Nigerian universities is relatively low and inadequate. Most of the facilities (where available) are in very poor condition that suggests poor maintenance practice. For example, the results obtained from observation schedule revealed that the federal universities within the scope of this study were found to be more endowed in terms of physical infrastructure, where most of the structures are storey buildings. The ranking of available infrastructure by students showed that libraries, laboratories, classroom blocks and furniture plus electricity and water supply were those items having significant effect on students' learning. Summarily, there is no significant difference in the level of infrastructural development in federal and state universities. This means facilities available in the universities, be it federal or state owned, did not commensurate with the students' population. The resultant effect of which was overstretching of the available ones thereby reduces the life-span. Interestingly, the need for expansion in terms of infrastructure particularly buildings is being recognized. These findings are in agreement with Osagie (2003) who posited that the type and quality of education that students receive bears a direct relevance to the physical facilities provided. Subair (2011, 2008); Nwagwu (2004) and Osagie (2003) submitted that availability of adequate school buildings, classrooms, chairs and tables, laboratory, library and other physical structures are necessary for the accomplishment of any educational goals and objectives and to put the Nigerian universities in a better position to face the challenges of global competition.

To this, the researchers are of the opinion that it is pertinent, therefore, to note that provision of these equipment and materials are essential for effective teaching-learning in the nation's universities which if not available or inadequate will cause adverse effects on the students' learning. It is pathetic to find students studying science and engineering related courses under condition of inadequate facilities to practice with or work on. How then do we pursue the national aims and objectives on education? How then do we attain our dreams of greater height in terms of scientific and technological development? Hence, university structures, libraries, laboratories, workshops, equipment, and so on, should be made available not only to facilitate learning but also making it quality imperative.

The view expressed above is consistent with Dahunsi (2007) who said that all public universities in Nigeria cried of underfunding, the effect of which is evident on the institutions. Numerous abandoned projects, acute shortage of qualify staff, and inadequacy of laboratory, library, teaching and infrastructure among others are regular features of these institutions. The cumulative effect of this is an off-mandate activities and production of graduate described as half-baked.

5.1 Implications for Educational Administrators and Planners

Arising from the findings are a few practical implications for educational administrators and planners as well. It is expected that administrators and planners of education should consider learner's behavioural changes as being dependent on their levels of cognition in terms of awareness, perception, and motivation, all which result into enthusiasm to learn. As a result of this, more efforts should be exerted on adequate provision of infrastructure in a manner that recognizes the number of students on school enrolment and possibly, the prospective ones. Findings in this study have shown that level of students' zeal for learning is determined by the quantity and quality of available infrastructure. As a result, availability and adequacy of physical infrastructure, well equipped libraries, with ICT and laboratories with modern machines are not just necessary if minimum standard is to be attained but also an essential part of a conducive learning environment. If facilities do affect the learning process and school administrators, planners and policymakers are not taking this into account, it may frustrate the outcome of the process. The outcomes are the broad effects achievable on the students. Such outcomes include students' knowledge, ability to appreciate and enjoy cultural activities, behave with social responsibility, participate in democratic politics and be productive members of the labour force. These outcomes cannot be achieved except the necessary infrastructure capable of motivating the learners is adequately put-in-place in order to arrive at quality university education that is beneficial to the learners and the society at large. Also, measures should be put in place by university administrators to ensure adequate maintenance of the available facilities and equipment to forestall deterioration and wastages.

5.2 Conclusion

Infrastructural factors such as classroom, library, laboratories, instructional gadget and office space are significant in the quality assurance of university education. Unfortunately, lecture rooms and office places are grossly inadequate and not convenient for proper positioning of modern electronic gadgets that will accommodate current curriculum and the globally acceptable mode of teaching and learning. If there is anything that the learners expect of universities, it is high quality teaching and learning characterized by factors such as quality teachers, quality learning materials and adequate infrastructure. This study shows that both the federal and state universities within this scope have no adequate infrastructure that are commensurate with the number of students on the institutions' enrolment and number of programmes. Surprisingly, facilities available in some universities are not modern and do not portray university status in any manner. If the quality of the infrastructure can

be this low, then the quality of the staff and students who need them to work for the achievement of effective teaching and learning for quality outcome will be in doubt.

5.3 Way Forward

Based on the findings of this study, the following suggestions were given as way forward to the identified infrastructural problems in the nation's university education:

- Government should wake up to her onus of adequate funding of education and provision of infrastructure that will benefit students and staff alike in the universities.
- The quality of university education must not be compromised by over enrolment, over-crowdedness and the multi campus system.
- Development of a high level of maintenance practice on the available facilities should be institutionalized. However, there is a need for the implementation of a direct quality assurance program to ensure that maintenance standards are met.
- Basic infrastructure like electricity, pipe-borne water, and road network should be improved upon. The constant erratic power outages in the universities call for immediate attention. It is recommended that each faculty has alternative source of power supply to ensure that faculty members are not delayed unnecessarily from carrying out their routine administrative and academic assignments. However, standards should be maintained in the provision so that "***disturbing***" power generators are not put in circulation.
- Promoting an institutional culture of quality and sincere self-analysis to guide the university administration, academic planners and policy implementers.

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