Makerere Journal of

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The International Journal of Theory, Policy and Practice

East African School of Higher Education Studies and Development
College of Education & External Studies
Makerere University

Makerere Journal of Higher Education

Aims and Scope

Description: Biannually, the East African School of Higher Education Studies and Development, Makerere University College of Education, produces *Makerere Journal of Higher Education* (MAJOHE) (ISSN: 1816-6822). The goal of the Journal is to provide a visible outlet for definitive articles that discuss the theory, practice and policies relating to the role, development, management and improvement of higher education from an international viewpoint. Therefore, the editor invites contributions that link relevant theory and research evidence to the policy and practice of higher education. Though a highly diverse range of contributions will be considered, the Journal gives special preference to conceptual and empirical writing that is relevant to the understanding, promotion and constructive criticism of the reform agenda in African higher education institutions and national systems and integrates pertinent international developments, debates and challenges. This is because the Journal's management board acknowledges that the questions, issues, theories and policies pertaining to the development of contemporary higher education institutions and systems require in-depth study and comparison at an international level. Preference is also given to contributions that discuss new initiatives at regional and continental levels (including the work of national and multilateral higher education organisations and associations). The Journal's editorial policy prefers submissions that synthesise the significance of different higher education policy alternatives and geographical experiences in explaining the phenomenon at hand. On top of rigorous examination of the 'local dimension' of the issues that they expound, therefore, contributions mirror conversance with relevant international perspectives and experiences, thereby situating the debate in a broad discourse that facilitates holistic understanding of the issues at hand. Edited from Makerere University, Uganda, the Journal draws on the expertise of a diverse editorial board, as well as a wide range of reviewers in and beyond Africa. The Journal is committed to the publication of both experienced and early career researchers so its editorial policy puts overriding attention on helping contributors to reach the level of quality that is deemed fit for publication through ensuring relevant, fair and penetrating reviews as well as timely relay of feedback to contributors.

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Editorial

The fourteen papers in this issue of *Makerere Journal of Higher Education* (MAJOHE) have been written by 31 authors based at universities and research institutions in Ethiopia, Malawi, Nigeria, Uganda and Zambia.

The papers touch on a diverse range of issues including, but certainly not limited to, reform of/ in higher education institutions and systems; privatisation of and access to higher education; management of higher education institutions; ICT in higher education; teacher education; and research. We are grateful to the authors of these papers for contributing to realisation of the journal's (and indeed the East African School of Higher Education Studies and Development's) goal to promote the study, understanding and development of higher education from an internationally comparative and multidisciplinary perspective.

Worldwide, higher education institutions and systems continue to face (*traditional* and emerging) challenges but also to have ambitious prospects for reform. In this context, *sharing* is invariably beneficial and it is our hope that readers will use the experiences and insights shared herein in their efforts to contribute to realisation of the prospects of higher education as a field of practice, regulation and scholarship. We will be happy to receive writing on some of these contributions as submissions for future issues of the journal.

As usual, our thanks are due to all the authors who submitted their work to MAJOHE (published or not); the anonymous reviewers who advised the editorial board on the quality of the submissions; and to African Journals Online for hosting the journal online.

Editor

East African School of
Higher Education Studies & Development

Creation of the Next Generation of Thinkers and Innovators: Doctoral Training in Ugandan Universities

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Abstract. This paper underlines the need for researchers and innovators trained at the doctoral level in Uganda. Making reference to various sources, it estimates the number of PhD holders in the country. This is with the conclusion that the number is too small for the country's development aspirations, notably Vision 2040. Thereafter, the paper discusses the state of postgraduate training in the country, with specific reference to the doctoral level. Recommendations for reducing the dearth of PhD holders are made.

Keywords: Doctoral training; Knowledge workers; Research for development.

1   The Need for Doctorate Holders in the Country

Uganda does not only need more qualified academic staff but also well trained researchers to perform the triple functions of knowledge production, its dissemination, and proper application in society. The people who perform theses triple functions are, in most cases, PhD holders. PhD holders undertake research, the creation of the next generation of academics and help in the application of researched knowledge in society. Researchers and innovators are linked and doctorate holders are needed to do both. PhD holders are key in executing tasks that need high level thinking power. The major functions of PhD holders, therefore, include but are not limited to, the following:

1. The production of knowledge through research and innovation;
2. The dissemination of knowledge through teaching, publications, transformation of knowledge into goods and services for society;
3. The creation of the next generation of academics and researchers through teaching, supervising and providing example; and

4. Defining locally appropriate conceptual models of development.

2   The Dearth of Doctorate Holders in Uganda

This research has established that there is an alarming shortage of PhD holders. *The number of PhD holders in the country is so low that it is wishful thinking that Uganda can be transformed into a modern society by 2040 as the official plan would make us believe*. This shortage cannot be bridged in the next one hundred years if current production rates of these individuals are not accelerated. My survey of research activities and postgraduate training in Uganda indicates that currently, there are about 1000 to 14000 PhD holders though the figure of about 974 of PhD holders in institutions of higher education as recorded in 2011/12 by NCHE was approximately correct at that time. In a population of 35 million people, the ratio is about one PhD holder per 35000 people.

These estimates are derived from two sources: First, the National Council for Higher Education collects numerous data on higher education each year from universities and other tertiary institutions. Qualifications of staff are a major item of focus. The NCHE has been publishing data on qualification of staff since 2004 showing their qualifications and status in various higher education institutions. I used the NCHE data to estimate the number of PhD holders in institutions of higher learning. However, the NCHE data has the following problems:

1. Its data is collected, and restricted to, only PhD holders who are within the higher education system. Those working elsewhere in the country are not included; and
2. A number of PhD holders teach in more than one higher education institution (i.e., they moonlight). There is therefore a possibility of multiple counting of one individual.

The second source of information on PhD holders in Uganda that I have used is the 2012 Uganda National Council for Science and Technology survey *The Careers and Productivity of Doctorate Holders (CDC)* conducted by Professor Vincent Ssembatya, now head of the Directorate of Quality Assurance, Makerere University. The survey is very good on the characteristics of PhD holders but its calculation of actual numbers and where they work is, like that of NCHE and my survey, not complete. Nevertheless it concurs with the NCHE and my surveys as to the estimated number of PhD holders. Ssembatya feels that by December 2015, there were probably 1300 PhD holders in Uganda (Interview 24th February 2016). The third source is data collected by myself between 2015 and 2016. In that period, my research assistant and myself visited over 75% of Uganda's universities and read numerous documents pertaining to postgraduate training.

It is evident that the numbers are far below the country's needs in both the education sector and the rest of society. Uganda with about 250000 higher education students, of whom more than 150000 are in universities, does not only have a low ratio of PhD to students, PhD training programmes are not well structured in our universities as I shall discuss below. Thus in 2011/2, the PhD to staff ratio was about 1:150, for universities and about 1:208 if all tertiary students are factored in. None of Uganda's universities had the NCHE ideal of 60% staff with PhDs although Makerere with about 40% was moving towards that goal.

The average percentage of PhD holders in each of Uganda's university was found to be 11.7% (NCS&T) and 11% (NCHE) of total staff. *To create more universities without funding the creation of the key staff we need to manage these institutions has always baffled me.* Assuming that all lecturers in universities are required to have a PhD, as Makerere has stipulated, the PhD deficit in the higher education sub-sector is alarming. To achieve the NCHE ideal staff to student ratio of one PhD holder to fifteen students (1:15) would need 18,700 PhD holders with the current enrolment of 250,000 higher education students. However, the current estimates of PhD holders is about 1200 to 1400, leaving a deficit of (60% of 18,700) or 11,250 if the lower figure was taken to be correct. To fill the gap and eliminate this deficit, the country needs to produce at least 1000 PhDs per year for the next eleven years. Based on normal productive capacity of three PhD graduates per academic staff every five years (or 0.6 PhD per year), Uganda's current PhD possible production capacity is about 212 PhD graduates each year (see Table 1). This translates into a production rate of one graduate per 165,000 people (Ssembatya, Vincent in Mak News Magazine, *PhD Training in Uganda*, January 2016, pp. 22-3). Actual production in 2014/14 was only one hundred individuals, 68 of whom were graduated by Makerere.

As noted earlier, most of Uganda's PhD capacity is at Makerere University. It is therefore obvious that the state should gradually make Makerere a trainer of high-level postgraduates and transfer the training of undergraduates to other universities. In locating new or improving existing institutions, emphasis should be put on disciplines rather than political appeasements. Establishing new "universities" to address political sentiments has led to the establishment of glorified high schools named universities in a number of locations in Uganda.

How will Uganda staff our higher education institutions? The Government can either massively fund the training of academic staff or fly in batches of expatriates to staff the opening universities. With student enrolments increasing by 15% each year, the system is registering a deficit of at least 1000 PhD holders annually. To counter this negative development, the country should aim at (a) filling the gap by massive training of postgraduate students and (b) developing capacity for research and training in two or more universities (where focused capacity development can be accelerated) to enable the country produce at least

one doctorate per one hundred thousand people in the general population. In comparison, South Africa produced 26 doctorates per one million people in 2007, Portugal 569, Korea 187 and Turkey 48 (*University World News*, 15th December 2013: *Understanding the demands of PhD production*).

But it is not only higher education institutions of learning that need more highly qualified people. The country needs more PhDs holders if it is to transform its economy into a knowledge-based one for universities are the factories of high-level skilled workers. The PhD to population ratio of 1:35,000 is too low to constitute a thinking core that the country needs to become innovative enough to manage a knowledge-based economy. Research and other forms of knowledge production conducted by highly educated and skilled people is key to transformation into a knowledge economy. As the Uganda Vision 2040 has not specifically itemized how many PhDs the economy will need to transform into a "modern and prosperous nation", funds may not be allocated to fill this deficit. It is unfortunate.

3   Characteristics of Ugandan PhD Holders

Ssembatya's NCS&T survey gives us a glimpse of the characteristic of PhD holders. Using a sample of 534, the survey established that 99% of Uganda's PhD holders were employed. **They are hot cakes on the market**. They worked in higher education institutions, statutory bodies, research institutions, the private sector and multinational organizations. This high rate of employment reflects a very high demand for PhD holders in this country. Most PhD holders (85%) worked in education institutions. However, the majority of the sample, 76% were male, 24% female and the graduating age was 48, indicating either late start in embarking on doctoral studies by candidates, long completion rates or both. But it is not only numbers that Uganda has deficits of PhD holders. The study found **the productive capacities** of Ugandan PhD holders was low. Ugandan PhD holders were not intellectually productive. The average lifetime publication of a typical Ugandan PhD holder was ten pieces and they had very low patent grants (0.6 patents per person). *There is therefore need to watch quality as we train these key individuals who train our kids in universities and construct our theoretical conceptions of our development plans*. The major fields of study were 23% natural sciences, 23% agriculture and 6% health sciences/medical. Most Ugandan PhD holders did their studies in Uganda (53%), 13% from the UK, 8% from the USA and 6% from the South Africa. However, there were a number of PhD holders who got their degrees from other countries including the Netherlands, Norway, Germany, Canada, India, Sweden, Malaysia and other Asian and European countries. This study attributed this dearth of PhD holders

to Government's inability to fund Research and Development beyond 1% as a percentage of GDP.

4   The Training of Postgraduate Students in Uganda

PhD holders constitute the core of the academic and research communities in both universities and the general society. The Uganda state divested from funding postgraduate programmes in the early 1990s. For some time, universities financed staff training and postgraduate programmes from their budgets. The state's view was that any postgraduate training was to be aligned to civil service manpower needs. However, by 2012, following the example of public higher education institutions, private universities reduced allocations to the research and postgraduate functions of their budgets. By that year, on average, public universities spent only 1.06% and private universities 1.94% of their annual budgets on development and training of their staff (NCHE State of Higher Education, 2012/13 page 4). According to this NCHE publication, a total of 465 staff members were training for PhDs while 442 were studying for Masters degree in 2012/2013. Unfortunately, the NCHE report does not disaggregate these numbers by year of admission and expected completion dates. So, we do not know how many candidates were being enrolled or completed each year.

Although most of Uganda's thirty or so universities train post graduate students, the quality of products is questionable. Initially, the NCHE allowed only accredited universities (public and chartered ones) to offer postgraduate programmes. But this rule was neither kept by institutions nor enforced by the NCHE. Further, the NCHE developed its *Benchmarks for Conducting Postgraduate Programmes* only in 2014 when many institutions had already embarked on offering these programmes. During the said survey, I found that many universities, including those with no capacities in terms of staff and facilities, were offering postgraduate programmes. It is not surprising that the knowledge production level of PhD holders in Uganda was found to be low by the UNCS&T study quoted above.

The training of postgraduate students therefore needs thorough thought, both at Makerere and the other newer university institutions. Although the demand is high and urgent, the production of PhD graduates cannot be rushed. No nation can afford to have badly trained terminal degree holders. Until the NCHE benchmarks for conducting postgraduate programmes were approved last year, I was nervous, and I am still frightened, about the way doctoral studies were, and to some extent still are, conducted throughout Uganda. As Executive Director of the National Council for Higher Education, I had the difficult task in November 2012 of asking one Ugandan University to halt the award of some sixty doctoral

degrees it was about to grant to candidates on graduation day. I knew the training capacities of all universities in my care and none, except Makerere, had the capacity to graduate more than fifteen doctoral candidates in a single year. Indeed the task force of expert assessors who reviewed these awards later on vindicated my fears. A number of the awards were either refused recognition or were asked to undertake massive revisions of their dissertations. Many of the candidates had not gone through preliminary course work that is necessary to grind PhD candidates into the culture of research, writing and conducting lectures, seminars and public debates.

Of course, there are many ways that NCHE and institutions of higher learning can employ in training PhD candidates. In a recent book on the doctoral education in South Africa, (Cloete, et al., 2015, page 133) the following models/types of PhD training have been identified:

1. The traditional research based thesis-only PhD supervised by a scholar, (the British type of PhD),
2. The taught PhDs plus a thesis, often called the American type;
3. The PhD by publication through a series of academic papers;
4. The professional or work-based PhDs, where the field of study is within a profession rather than an academic discipline; and
5. The practice based PhDs awarded in creative and performing arts.

The NCHE guidelines on training postgraduates have a mix of the British and American models but the majority of institutions in Uganda use the British model of offering these degrees by thesis only. The NCHE needs massive campaigns to popularize its preferred model of teaching doctoral studies in Uganda. Exploiting the need for terminal degrees, many of the small universities in the country are rushing to produce PhD holders of questionable quality. In my visits to universities during this research, I observed and took notice on how our institutions were educating PhD graduates and the next generation of academics. Most institutions do not distinguish research from postgraduate training activities while others do not know which comes first: research or postgraduate training. For more than 99% of the universities surveyed, the two activities are always in one office, often called the Directorate of Postgraduate Studies and Research, though two institutions reversed the nomenclature. Over 60% of these offices supervise and put whatever money is allocated to postgraduate training rather than research. The next few pages will review some of the doctoral training activities I found in Uganda's institutions of learning.

4.1 Makerere University

In the period 2009 to 2015/16, Makerere University graduated only 384 PhD holders (or about 55 individuals a year). In the same period, some 650 students

were admitted (i.e. an average of 93 a year). The completion rate was, therefore, on average, 55%. This rate is rather low in comparison to the institution's capacity and the national demand for PhD holders. Yet, all the smaller new universities in Uganda look to Makerere for supplying them with academic staff. The service Makerere can undertake in *building for the future* is to focus on good postgraduate training. This is a role only Makerere and the nation can play. ***Makerere University should therefore gradually focus on postgraduate training to produce academics for the many mushrooming higher education institutions, the public and private sectors***. However, the decision to implement such a policy is not only political, it is likely, and possibly can only be taken in the context of Uganda's current centralized decision making behaviour that has characterized the country's management in the last twenty years or so. Institutions are rarely managed differently—or better—than the way the nation in which they are located is managed.

4.2 The Makerere Institute of Social Research Innovative Doctoral Offering

Makerere Institute of Social Research mounted PhD training programmes using the course work plus a thesis model (the American model as described above). Started in 2012, the five-year programme involves two years of coursework and three years of dissertation research and writing. Four broad themes have defined the programme's intellectual focus: Political Studies, Political Economy, Historical Studies, and Cultural Studies. Students are asked to specialize in one field, but must take classes across all four areas. This allows students to be grounded theoretically, while at the same time giving them a broad foundation in historically informed debates in the humanities and social sciences. In addition, there is a set of core courses with a focus on theory and historiography, required for all students. MISR academic staff, staff from other Makerere departments, and by prominent visiting scholars through the MISR Global Scholars Programme, teaches these courses. Since it was launched, the programme has become very popular and applicants increased in the years 2011/2 to 2015/6.

4.3 Nkumba University

Nkumba University is a private chartered institution. It offers doctoral studies as part of its postgraduate training. With 13 PhD holders amongst a staff of 231, Nkumba's PhD holders constitute only 6% of staff, which is far below the NCHE ideal of 60%. It is no surprise that the completion rate of postgraduates at Nkumba is very low. The PhD production and therefore completion rates at Nkumba University from 2009 to 2015 which was 14 out of 99 (or 13.9%) is extremely low. Lack of staff capacity especially PhD holders to supervise

graduates partly explains the low completion rates. The PhD programme at Nkumba is a three year one and so in 2014 only 4 (four) out of 17 (seventeen students completed their studies; in 2015 only 5 (five) out nine (admitted in 2011/2) completed; in 2014 only 3 (three) completed out of twenty three admitted in 2011/2.

4.4   Gulu University

Gulu University is a public university started and owned by the Government of Uganda. Gulu University has a low capacity for teaching and graduating doctoral students on its campus. Members of staff with PhDs are only 16. The rest of the 214 academic staff members have Masters, Bachelors of Medicine (or Veterinary) and Surgery and other first degrees. The PhD holders are about 8% of total staff, which is below the NCHE ideal of 60%. However, the core faculty of this university is Medicine whose lecturers emphasize professional rather than purely academic qualifications. Further, the figure of 16 doctorate holders does not include managers like the Vice Chancellor, his deputy or Academic Registrar

Gulu University has tried to produce the next generation of academics in a very innovative way. To make up for its low PhD staff capacity, Gulu University has collaborated with sister (public) universities in Uganda and abroad to train its human resources requirements. By 2016, some 92 of its staff were registered for PhDs and 119 for Masters Degrees with other universities. This strategy has a number of advantages, which include minimizing academic inbreeding, which often leads to shallow interpretations and personification of issues. Donor agencies have also assisted the University in postgraduate training. From the conversation I had with staff, most of the PhD graduates have been trained by the "thesis only" method though a few who have gone abroad have been exposed to the "coursework plus dissertation requirement" or what is often referred to as the American system of training PhD graduates.

4.5   Uganda Martyrs University

Uganda Martyrs University is a chartered institution owned by the Uganda Episcopal Conference. The institution is known for its careful balancing of student enrolments with the facilities it has. For that reason, it has turned out very good students. The University had 39 members of staff with PhDs in a total staff of 221 members or 18% of staff in 2014. This capacity is rather low compared to the 60% ideal requirement set by the NCHE.

The University registers a few students for the PhD degree. In the period 2009 to 2014, a total of sixteen students were admitted to do PhD programmes. Of those, six graduated representing a completion rate of 37.5%. This is not high but better than a number of accredited universities except Makerere University.

4.6   Uganda Christian University

Uganda Christian University, which is located at Mukono, a few miles east of Kampala, was chartered in 2004. The Anglican community in Uganda who continue to steer its direction founded the University. The institution has attained a good reputation for excellence in academic deliveries. Like most universities in Uganda, the University's capacity in terms of staff with PhDs and, therefore, staff who can train the next generation of academics, needs improvements. With 10% of staff holding these terminal degrees, the University can turn out only (0.6 x 31) eighteen PhD holders a year if the NCHE guidelines are followed and if the staff are meticulous in their supervising responsibilities. However, it is rare that all PhD holders in an institution take on the responsibility of supervising PhD candidates.

4.7   Ndejje University

Ndejje University is a chartered institution with some 39 PhD holders as members of academic staff. Despite the shortage of PhD holders, Ndejje University offers PhD programmes.

4.8   Bugema University

By 2016, Bugema was about to start offering PhD postgraduate programmes. With 40 academic staff having PhDs, the institution can graduate (25% i.e 10 x0.6) six PhDs a year starting five or so years from the date of first intake.

4.9   Islamic University in Uganda

The Islamic University in Uganda (IUIU) is jointly owned by the Organization of the Islamic Conference, Jeddah, and the Government of Uganda. An Act of Parliament governs it. Founded in 1988, IUIU was the second University in the country and, not surprisingly, it adopted the administrative practices of Makerere University from where most of its initial local staff was recruited. In December 2015, the institution had 42 members of staff with PhDs. Its capacity to offer PhD programmes was, therefore, limited to about six students a year (0.6 x 25%of 42).

5   PhD Production Potential of Eleven Accredited Universities

After going round our universities and comparing them to international practice, I found the flowing can be the estimates of the PhD numbers that can be produced by Uganda given the following parameters:

5.1   Staff Capacity

1. Surveys of doctoral trainings indicate that one seasoned PhD holder academic staff, given good education facilities and financing, can supervise three PhD students in five years in most good universities (Cloete et al. 2015). That is 0.6 students a year;

2. A seasoned academic holds a PhD, has taught for at least six years, written some five or more good articles and one or two books. Such a person is about 55 to 75 years of age and can make fundamental statements without looking them in books or the web;

3. For most universities, only about 25% of PhD academic staff holders are able to supervise PhD candidates because:

a. The young PhD holder who has taught for less than six years is busy trying to manage the starting of life in the academic world, gaining confidence and setting himself up financially by, unfortunately for some in Uganda, moonlighting and doing consultancies. He/she cannot supervise PhD candidates;

b. About half of PhD academic staff holders are sucked into searching for money rather than knowledge and are involved in consultancies, fighting for administrative positions in universities and the general society, getting involved in politics for monetary purposes and seeking positions of social honour rather than knowledge. Once they reach the age fifty-five without substantially contributing to human knowledge, such lost individuals cannot easily reroute into the academic world. They cannot supervise good PhD graduates because their mastery of disciplines is shallow.

c. Due to the inadequate financing, lack of good infrastructure to support research and postgraduate training, many potential PhD supervisors amongst Ugandan academics are easily discouraged and give up supervising students as an impossible task. In this way, the country loses potential trainers.

d. The retiring age requirement of 60 to 65 in a number of universities in Uganda removes the most seasoned academics from the system. Their removal contributes to the dearth of PhD holders who can supervise the next generation of academics in this country.

Taking into account the above factors, Uganda's current capacity in creating PhD holders based on **academic staff capacity alone** was about **210 in 2014/15 with Makerere producing three quarters the number** as is shown in Table 1.

Table 1: Potential PhD Production Capacity in Eleven Accredited Universities*

University	PhD holders	Possible production based on 0.6 PhD unit production of 25% of PhD holders a year of total staff	Potential number institution can produce	Numbers produced in 2014/15
Makerere University	1000	250 x 0.6	150	68
Gulu University	16	4 x 0.6	3	2
MUST	56	14 x 0.6	8	3
Nkumba University	13	3 x 0.6	2	3
Uganda Martyrs University	39	10 x 0.6	6	2
Uganda Christian University	31	8 x 0.6	5	2
Kampala International University	82 estimates	21 x 0.6	13	Probably 14
Islamic University in Uganda	32	8 x 0.6	5	2
Ndejje	39	10 x 0.6	6	1
Bugema	40	10 x 0.6	6	Not grad yet
Islamic University in Uganda, Mbale	42	10 x 0.6	6	-
Total	1393	338 x 0.6 =202.8	210	100

* Based on 2014/15 figures of academic staff with PhDs (only) as reported to the author by universities; education facilities excluded.

However, according to my survey of research and postgraduate training in Ugandan universities, the nation produced one hundred individuals in 2014/15. But this potential does not take into account education facilities such as staff offices, students' reading rooms (carrels), library, laboratory equipment, science materials, field placement funds and a host of others. If the quality of the PhD holders Ugandan institutions are turning out is not the best as the NCS&T survey on Uganda PhD holders' indicates, the state should turn its attention to doctoral training.

5.2   Education Facilities

The estimates above did not take into account the role of education facilities. These are dependent on the discipline but the following are crosscutting:
1. Staff offices are critical. A supervisor of a PhD student must have an office to meet, mentor and help the PhD candidate in a closed and personal environment for discussing intellectually demanding ideas;
2. A carrel or office space in the library or classroom block where the PhD candidate is free to pile his/her books or journals as the most relevant reading material are being sorted, is a necessity;
3. Access to hard and soft computer ware for word-processing and internet access are a must for a PhD student;
4. Full access to hard and electronic reading materials is always needed for any given programme. In the course of this research, we found one Uganda University that was not linked to international journal databases offering PhD programmes.
5. Good student inputs, that is, candidates who have performed well in their Bachelors and/ or Masters classes.
6. Sufficient financing both to the supervisors and students is essential. Elsewhere increases in funding have increased PhD production levels (Cloete et al., 2015).

6   Conclusions

The following conclusions are also my recommendations.
1. There is a critical deficit of some 10,000 PhD holders in the higher education system that is adversely impacting on research and therefore creation of knowledge, critical evaluation of society, quality of higher education delivered and training the next generation of academics. The country needs to train at least 1,000 PhD holders annually for the next ten years to bridge

this deficit. But the current country's university capacities for training PhD holders can only be stretched to deliver about 200 individuals. Sadly, in the 2014/16 academic year, only 100 PhD holders were actually graduated. For those who graduate with PhDs, immediate employment is assured. The employment rate for PhD holders is 99%. However, due to the Pension Act stipulations, a PhD holders works for only 12 years and is retired (average graduating age is 48, retirement at 60). The National Planning Authority should also calculate the number of PhD holders needed in other sectors of the economy.

2. Although the higher education sub-sector has a PhD deficit of some 10,000 individuals and must produce at least one thousand PhD graduates each year if it wants to close the deficit and match with the current higher education enrolments of 15% each year, the training of PhD graduates cannot be rushed. Only universities with research and teaching capacities should be allowed to train postgraduate students. For now, only Makerere University has capacity to conduct sufficient and diversified research. The retiring age requirement of 60 to 65 in a number of universities in Uganda removes the most seasoned academics from the system. Their removal contributes to the dearth of PhD holders who can supervise the next generation of academics in this country. Universities respond to both national and global forces and are judged by using local and international benchmarks. The pension laws of the country should be amended to create exceptions for the sake of national development.

3. Makerere should be funded to gradually become a postgraduate training institution to produce academic staff for all other universities, high-level skilled and thinking personnel for the country's innovation system, the public and private sectors of Uganda and the region. Seven other universities, namely Mbarara University of Science and Technology, Uganda Christian University, Uganda Martyrs University, Bishop Stuart University, the Islamic University in Uganda, Ndejje University and Mountains of the Moon University have some infrastructure and allocate some money for research and knowledge production. But they are in their earliest stages of undertaking ground-breaking research. They should take on more undergraduates so as to decongest Makerere.

4. Unfortunately, postgraduate training - which is the incubator of the next generation of academics - is neither well organized nor linked to actual research conducted by institutions. A number of universities, even those that do not do impressive amount of research, conduct postgraduate training. Our research indicates that it is only Makerere University science based divisions that have the research and training capacity to train postgraduate students. This is not to say that staff capacity for postgraduate training is lacking in the Arts/Humanities division of the institution. As the data has shown, the

institution has such a people. However, as Mamdani observed, many of these faculties focus on teaching and consultancies, not research and publications (Mamdani, 2007). If they are not doing research, staff are likely to teach postgraduate students from secondary sources including the World Wide Web!

5. It is the responsibility of the state to properly finance universities especially their research function, for knowledge has become the driver of economic and social development. The university does not only train its workers but also all intellectual workers in the wider society. Unless we want to "vocationalise" institutions that are meant to develop the mind, the private sector should not be expected to fund the research function of universities because its interest is profit and focuses on "market-driven programmes" that are better delivered outside universities.

6. To improve University governance and therefore university functions, vice chancellors should know that the academic department is the cell of academic activities of any university. Teaching and research policy as well as the training and hiring of staff should be devolved to academic departments in all universities. Principals of the new administrative superstructure called colleges at Makerere, deans and administrators at the same university should rethink their involvements in areas that are traditionally handled by academic departments.

7. Uganda should desist from sending its PhD students abroad. A number of those who go overseas for training do not return. Many of those who come back lack the ability to ask "the right questions" as has been observed by Mamdani. They are often incapable of developing locally relevant theoretical models for solving local problems.

8. The state must be made to understand that external donations can never be a permanent source of funding for research in public universities. They are good while they last, but they have problems and are unsustainable (Musiige & Maassen, 2015:116). Vice Chancellors and other stakeholders must carry the cross to the corridors of Parliament to make our "honourable" members understand the importance of research in a university worth its name.

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Religion and University Education: Emergence of the Christian University Movement in Zambia

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Abstract. This article explores the growth of the Christian university movement in Zambia to revisit the relationship between religion and education in the country. Informed by interpretivism and interpretive phenomenology, the insights for the study were gathered through interviews with purposively chosen Christian university representatives and document analysis. Layder's adaptive theory and Geiger's theorisations on the roles of private higher education informed the study. In addition, the concept of religious resource was used to make meaning of how the Christian churches had navigated through the university education landscape in Zambia. The article argues that contrary to the often ascribed reason of addressing the access to university education challenge, the emergence of the Christian university movement in Zambia had much to do with fulfilling the religious motives of the Christian churches, and therefore mirrored the dominance and influence of Christianity on Zambia's religious landscape.

Keywords: Private higher education; Faith-based higher education; Zambia.

1   Introduction

The growth of Christian universities in Zambia has attracted the attention of the media, any scholarly engagement. Therefore this article is a reaction to this academic silence, as the study on which this article is based was driven by the observable reality of the growing presence of the Church in university education. Despite this growth of the Christian university movement (here taken to mean the surge in Christian universities) in Zambia, and amid the many recent acknowledgments of the global growth of both Christianity and higher education (Carpenter, 2017), little or no distinct attention has been given to the presence of Christian higher education in Zambia, especially when compared to other African contexts where the involvement of the Christian churches in higher education has

not only been acknowledged, and mapped out, but also been analysed. For example, Enegho (2017) has provided a historical and economic analysis of Christian higher education in Nigeria. In the Zambian context, the presence of the Church in the provision of university education has been neglected and Zambian studies on religion and education have been preoccupied with the primary and secondary levels of education (Hambulo, 2016; Simuchimba, 2005; Carmody, 2007 & 2011). Yet Levy (2009) advances the view that the private higher education system has not been a static entity but instead has changed and evolved over many years in response to social, economic and political change; hence deserving sustained critical investigation. Therefore, this article re-imagines the growth of the Christian University movement in Zambia not only for making a modest contribution to religion and university education in Zambia, religion and university educationfor purposes of providing an in-depth understanding of the development of the Christian universities and indirectly documenting this new development for posterity and equipping the relevant stakeholders (Ministry of Higher Education, Higher Education Authority) with knowledge in making and taking appropriate decisions and actions in the sector.

The Christian university movement is spoken of in terms of the surge in universities that claim a Christian identity. As such, our understanding of a Christian university is informed by Benne's (2001) argument of determining the category of an institution by examining eight aspects of its life (the public relevance of its Christian vision, public rhetoric, membership requirements, the role of the religion or theology department, and whether any such courses are required, the nature and frequency of chapel, the overall ethos, the degree of support by the sponsoring church, as well as the role of the associated church in matters of governance). Therefore, a Christian university was understood as one that acknowledges and embraces a Christian or denominational confessional identity in the mission statements and alters aspects of its policies, governance, curriculum and ethos in the light of its Christian identity (Schroeder, 2002: 9). Most importantly, a Christian university in Zambia was also one that was registered and recognised under the 2013 Higher Education Act in the private higher education bracket.

Theoretically, the article is informed by Derrick Layder (1998)'s adaptive theory which allowed for learning from existing theories and generating insights from the emerging field data. Layder created adaptive theory as a methodological derivative of 'grounded theory' (Glaser and Strauss, 1967). Adaptive theory was preferred because of its ability to accept the contribution of general or existing theory and appreciate social-structural or systemic aspects of society (Layder, 1994). Since adaptive theory deals not only with the behavioural aspects of social research (such as activities, meanings and lived experiences) but also systemic phenomena (by tracing the reciprocal influences between individual social activities and their wider environment) (Layder 1998), it presented a frame for

studying and making meaning of why the Christian university movement had emerged in contemporary Zambia. Adaptive theory was further justified owing to the fact that the study was anchored on the self-understanding of the Christian Churches in the sector. The theory was applied by utilising elements of prior theory (both general and substantive) in conjunction with patterns that emerged from data collection and analysis (Layder, 1998: 27). In practice, this allowed for an interconnection between the Christian Church's meanings, activities and intentions as an actor and the broader 'system elements' of society and institutions.

Following Layder's recommendation that extant theories need to be selected according to the context being investigated, Geiger (1986)'s theorisations on the roles of private higher education were generally used to provide conceptual categories for what the Christian university movement as private provider of university education sought to do in the sector. Geiger (1986) described three main functions of private higher education institutions (PHEIs), which are: to provide 'more', better', and 'different' education. The 'more' function occurs when private higher education institutions exist to absorb an immense demand which public institutions cannot fulfil, while the 'different' function is played when the state allows private provision to respond to certain needs that are not met by the public sector institutions. The third function aids to compensate for the low quality of education found in the public sector by providing 'better' education.

The article argues that away from the existing functions of PHEIs advanced by Geiger (1986) provide better, more and different education, the emergence of the Christian university movement in Zambia had much to do with the promotion of the wellbeing of the Church and in the process, religion or Christianity became a resource that drove the movement based on the past track record of the Church's involvement in the provision of education in the country.

2   Method

The article is based on a study which was informed by an interpretive phenomenological approach in which the unit of analysis was purposively chosen based on its relevance to the study (Mason, 2002; Creswell, 2007). In this case the study sought to provide an in-depth self-understanding on the growth of the Christian university movement in Zambia by exploring the lived experiences of these institutions. Thus aware of the numerous universities associated with Christianity, two Churches and universities were chosen for purposes of depth and most importantly, because they were among the earliest. Document analysis and recorded interviews (with purposively chosen Church and University

administrators) were the main methods of data collection. The guidelines by Scott (1990) on quality control, formulated for handling documentary sources (authenticity, credibility, representativeness, and meaning) also informed the use of documents, which were chosen on the basis of availability.

Data were inductively analysed through the description of the phenomenon and significant statements through 'horizonalisation' and the development of clusters of meaning, textural and structural descriptions of the Christian university movement (Creswell, 2007). The process involved the generation and application of codes to the data and the identification, analysis, and reporting of patterns (themes). All this was done while keeping the principles for adaptive theory in check, hence Geiger's theory on the role of private higher education institutions, helped us make meaning out of the data. Consistent with the interpretivist tradition, the insights from this study are not for purposes of generality, but for providing an in-depth understanding on the growth of the Christian University movement in contemporary Zambia.

3   Context of the Christian University Movement in Zambia

Zambia's religious demographics indicate that Christianity is the leading religion (Cheyeka, 2014), a scenario that has been mirrored in the private university education landscape where the Christian university movement has been dominant. For example, while the Christian universities had long been established, it was only recently that Muslims embarked on establishing a university. The Christian university movement is therefore a new development in the history of the country's university education, hence deserved scholarly engagement. This is because until after independence, there were neither public nor private universities in Zambia. The changes in legislation in the 1990s created a new platform for university education as private providers were encouraged to come on board (Ministry of Education, 1996). Under this liberalised educational system, the right of private organisations, individuals, religious bodies, and local communities to establish and control their own educational institutions was recognised and welcomed (*ibid*). Since then, Zambia has witnessed the growth of private higher education institutions dotted around the country. Needless to mention that for any private university to exist, it must be registered and recognised under the Higher Education Act (Act No. 4 of 2013), which until 2013 was the University Act of 1999. The Act spells out the procedures and regulations of private higher education institutions and highlights the functions of providers of higher education.

4   Findings and Discussion

4.1   Origins of Christian Presence in University Education in Zambia

Generally, Christian presence in higher education in Zambia is tracked to the colonial period when missionaries established schools and colleges for their converts in order to foster the Christian faith (Snelson, 1974). Indeed, it has been acknowledged that in the early days, the missionaries provided education to the locals for purposes of evangelisation (Mwanakatwe, 1968; Snelson, 1974; Kelly, 1991; Carmody, 2000; Simuchimba, 2005). However, all these efforts were concentrated on the lower levels of education, to the exclusion of university education. Thus at independence, Zambia had few university graduates and no university until the establishment of the country's first public university, the University of Zambia in 1966, followed by Copperbelt in 1987 and others thereafter.

While efforts in Christian higher education are linked to the colonial era, university education initiatives are of recent origin in Zambia, given that the Christianity has globally been involved in university education since the 12th century. In Zambia, the Church vividly appeared on the scene of providing university education after the 1990s when in the quest to increase access to university education; the government of the Republic of Zambia began to encourage the establishment and accreditation of private universities (Kelly, 1999). This led to the birth and recognition of many private higher education institutions. As of 2017, there were fifty-five private universities in Zambia (Gazette Notice No.232 and 561 of 2017). Of these, the majority, have a Christian inclination in their mission and values. As such, Altbach's (2000) description of private higher education as the fastest growing segment of the entire higher education system is true for Zambia too, which has recorded the growth of many categories of private universities and whose role and contribution remains undocumented.

Notable Christian denominations that took a lead in responding to the liberalisation policies of the 1990s by establishing universities include the Roman Catholic Church (Zambia Catholic University and DMI St. Eugene) and the Seventh Day Adventist Church (Rusangu University) among others. While literature in Zambia and Africa indicates that Christian denominations have established schools largely for evangelisation purposes, (Snelson, 1974, Carmody, 1999) and that churches have been at the centre of the transformation processes in society (Walsh and Kaufmann, 1999) respectively, not much was known as to why the Christian churches in Zambia had expanded their provision of education to the university level from their own perspectives. This article therefore sought to empirically uncover the self-understanding of the Christian churches on the emergence of the Christian universities in contemporary Zambia.

4.2   Emergence of the Christian University Movement

Away from the 1990 polces on liberalisation that created an enabling environment for the Christian churches to establish their own universities, the churches had their own agenda too which accounted for the growth of Christian universities in Zambia. To start with, the Christian universities emerged in the hope of widening access to university education. These universities were either transformations of the existing bible schools or distinct from the bible schools. In the words of Geiger, this related to playing the 'more' function in the provision of university education. Geiger (1986) notes that the 'more' function occurs when private higher education institutions exist to respond to an immense demand which public institutions cannot meet. In this regard, Zambia's public universities were unable to absorb the population requiring university education. The high demand for higher education has partly been triggered by the expansion of primary and secondary education, leading to the increase in the number of qualified secondary school graduates seeking higher education (Masaiti & Mwale, 2017). For instance, only 8% of school leavers accessed public universities in Zambia (Revised Sixth National Development Plan, 2013). For illustration sake, more than 50 000 pupils complete secondary school each year, while higher education institutions have a total intake of about 10 000 (Mweemba and Hampwaye, 2012). This means that only about a quarter of the applicants to higher institutions are admitted each year, leading to a high demand for admission in the private institutions.

   The studied Christian universities pointed to setting up their universities in a bid to address this challenge. For example, the Catholic university sought to respond to the access challenge in their justification for expanding the provision of education to university level. Vatican radio reported that the Zambian bishops had responded to the need to provide tertiary education to the ever growing number of school leavers in the country by establishing the Catholic university in 2008 (4th April, 2011). Similarly, the Protestant Church was driven by the quest to serve the needs of those who met the university requirements…and had no place to turn to for a balanced preparation for life (Akombwa, interview 2018). Seemingly ambitious in nature, this represents the aspirations of addressing an access challenge to university education which cannot be addressed by the public sector. It must be noted that though the Christian universities claimed to have been established in order to address the access to university education challenge, their enrolment and graduate numbers were still low as compared to the public universities. As such, they were only making a modest contributions thus far to this cause and it was hoped that with time, the output from these universities would make a significant contribution towards addressing the demand for university education.

The Christian university movement was also driven by the quest to provide a different kind of higher education as allowed by the State to do so. In Geiger (1986)'s words, the different function occurs when the State allows private provision to respond to certain needs. In the Zambian context, these needs were tied to the growing demand for university education which translated into the liberalisation policies (MoE, 1996). The Church responded to this call by not only offering university education, but also providing her own nature of university education. An important characteristic of this university education was the holistic kind of university education which emphasised moral formation. For example, Catholic education was grounded in the integral development of the human person in accordance with the Gospel values (Calareso *et al*, 2011). Catholic Education was therefore understood as being above all a matter of communicating Christ and helping to form Christ in the lives of others (John Paul II, 1979), with the specific purpose being formation of boys and girls, men and women who would be good citizens of the world (Chilambwe, 2018).

While premised on the quest to offer holistic education, this mission of the Church seemingly pointed to the need for incorporating a spiritual ethos in the life of university education. These aspirations to produce a particular citizenry were manifested in the institutional mottos of 'the truth shall set you free'. This was translated into providing an atmosphere not only tailored to academics but also exposing students to what life was all about (through experiences meant to help students develop into complete human beings – academically, spiritually, socially and physically). These efforts included spiritual services and worship opportunities, sports activities, prayer meetings, campus clubs and recreational activities among others. As Benne (2001) notes, the chaplaincy in Christian universities remains a key element. For example, the office of the university chaplain coordinated and superintended over all spiritual related activities, including consultation and counselling, regardless of a student's religious affiliation in the Catholic university. The institution had spiritual gatherings such as Catholic Student Community (CASC), Youth Forum and ZAFES. As Calasero *et al* (2011) point out, the Catholic University seeks to develop the whole person, emphasising the moral, religious, social, as well as the intellectual aspects, in an integrated fashion that helps students discover and develop fully their human dignity and potential. These activities intended to nurture students in a holistic manner were also reported in the university. For example, the Protestant Church expressed its mission in university education as preparing students not only for professional careers but also equipping them physically, mentally, socially and spiritually by providing quality holistic Christian education at tertiary level to all who met the University's entry requirements. These narratives pointed to the establishment of the Christian universities in order to provide holistic university education and produce a particular kind of citizenry.

The Christian university movement was further motivated by the desire to offer a different education through the quest to be centres that fostered excellence, service, and integrity. The 'different' role was therefore played by emphasising on service which is captured in different philosophies guiding the churches' in the provision of university education. For example, the Catholic university understood the mission of service as expressed in the *Ex corde Ecclesiae* (1990), and was therefore related to being of service to the Church and society, pastoral ministry, cultural dialogue and evangelisation. In this regard, Zambia Catholic University was set up so to be the:

> University that provides a living institutional witness to Christ and his message through research in the light of the Christian message and to put new discoveries at the service of humankind and society; and accord professional training that incorporates ethical values and a sense of service to individuals and to society, and to foster dialogue between culture and faith (Zambia Catholic University website, accessed on 20th February, 2018).

With service as one of the primary goals of a Catholic university, this entailed that the institution ought to engage in a study of serious contemporary problems that would better serve the human community at a national and international level (Calareso, *et al*, 2011). The understanding of service thus calls on students and teaching staff alike to learn to be "attentive to the poorest and to those who suffer economic, social, cultural or religious injustice, 'the option for the poor' (Komakoma, 2003). This was translated into working towards bridging the gap between the rich and poor by making it possible for students from poor backgrounds to access and complete university education, including the adult literacy programmes that targeted women (Zambia Catholic Education Secretary, interview, 2019).

The philosophy on education (expressed in educating the head, hands and mind) also inspired the Protestant Church. For example, through the student work programme which entailed giving students an opportunity to work and earn some money while studying, the students were exposed to virtues of being of service in practical terms. This is because as they worked on the farm and other ventures in a bid to raise funds for their education, the students also acquired valuable practical knowledge and skills. The notion of service research in which different research projects such as the medicinal properties of the baobab and moringa tree were embarked on. As such, the Christian universities had emerged in order to offer a different kind of university education that gave preference to the poor in the hope of addressing equity in university education and at the same time to empower the students with virtues of industry and personal development in different spheres (Chilambwe, 2018). This option for the poor was understood in light of lower tuition fees as compared to public universities.

The quest to provide 'better' education, though not very vivid in the mission of Christian universities found expression in the institutions' pursuit to accord professional training that incorporates ethical values and fosters dialogue between culture and faith. This was exemplified in the institutions' advertisements. This element of advertising demonstrated the competitive nature of the university education landscape in twenty-first century Zambia. The quest to provide better university education was also understood in light of the enabling environment that facilitated for this role especially in a context of an inadequate public higher education sector. As such, the Christian universities had emerged to compliment the public higher education.

Using the adaptive theory as a lens, the Christian university movement pointed to Geiger's roles of private higher education (more, different and better) and the Higher Education Act's ascribed functions of higher education. Hence away from playing these roles, the emergence of the Christian university movement had more to do with integral human development and the promotion of the Church's well-being. For example, with regard to Catholic universities, other than being above all a question of communicating Christ and of helping to form Christ in the lives of others (John Paul II, 1979):

> Catholic universities are critical tools in evangelisation.... We do not only focus on training would be professionals but we also teach social teachings of the church so that Christ is communicated to change the world for better. We also focus on spiritual growth of our students so that they are helpful to society in future (Chilambwe, 2017).

Therefore, the widening of access to university education, the offering of a particular kind of university education and creation of particular environments in which the learning took place was ultimately for the good of the Church as all this was informed by Church policies and teachings on education. As such, university education remained part of the mission of the Church.

Most of the reasons accounting for the establishment of the Christian universities by the churches in the study found an expression in the religious resource as a concept. In the words of Ellis and Ter Haar (2006), religious resources produce knowledge that could be beneficial for development purposes. These include religious ideas (what people actually believe), religious practices, religious organisation (how religious communities are formed and function), and religious (or spiritual) experiences (such as the subjective experience of inner change or transformation) (Ter Haar, 2005: 22–7). Thus the religious ideas of spreading the faith through education in response to Mark 16:15, 'Go into the whole world and proclaim the gospel…' was reflected in the establishment of Christian universities. The Churches' philosophies on integrated, holistic and quality education enshrined in their doctrines further translated into establishing universities so as to produce a particular kind of citizenry. Both churches

believed in providing a study environment that stressed the acquisition of advanced skills, ethical, moral and spiritual formation.

The religious practices of living the social gospel and serving the needs of the poor also inspired the Churches to establish their universities in order to contribute to the socio-economic development of the country (Chilambwe, 2017). This was through their quest to set up universities so as to supplement State facilities in university education. The organisation and structures of the Churches also inspired the establishment of the universities because while the universities were open to people from different religious orientations, the immediate pool or clientele was the church membership itself (Akombwa, 2018).

More so, the experiences of the churches gained over time gave the universities the reputation. The Church in Zambia had been well recognised as a partner in teh provision of social services, hence they hoped to use the expereinces gained at the lowere levels to provide quality university education (Chilambwe, 2018). As such, the Christian universities were established in order to conserve the gains at these lower levels and foster their religious goals.

Furthermore, the motivations for the Churches to establish their universities mirrored the conducive environment that supported their growth. As such, religious bodies have seen it as their duty to provide higher education to the society especially by contributing to the demand for university education in areas, which had no such facilities. The emergence of the Christian universities also points to the society's religious pluralist nature which finds expression in tolerance for varied alternatives or an intolerance that barred certain groups from mainstream institutions. Thus other than the liberalisation policies, the religious declarations, and in particular the declaration of the country as a Christian nation has also indirectly contributed to a fertile ground for the booming of the Christian university movement in contemporary Zambia.

4.3   Conclusion

The article explored the emergence of the Christian university movement as a new development in post 1990 Zambia. It was established that the Christian university movement had emerged to largely provide 'more different and better' university education and that all these reasons were facilitated by both local and global realities as the Christian churches and their universities were responding to these realties. The article argues that contrary to the often ascribed reason of addressing the access to university education challenge, the emergence of the Christian university movement in Zambia had much to do with fulfilling the religious motives of the Christian churches, and therefore mirrored the dominance and influence of Christianity on Zambia's religious landscape.

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Higher Education Reforms in Malawi with Specific Reference to Equitable Access

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Abstract. This paper discusses the re-adoption of equitable access to higher education policy as one of the most controversial reforms in public university education in Malawi. It reviews the origins of the policy as a means of redressing disparities in access to higher education and the debates that have continuously ensued between the policy's proponents and opponents. The paper also discusses the concept of equitable access to higher education and how it has evolved from the notion of quota system. Through the debates, the paper offers insights into the benefits of the system as well as its challenges. It also reviews possible long- and short-term solutions to addressing the issues of access to higher education.

Keywords: Access; Equity; Reform.

1   Introduction

Access to higher education is very critical in Malawi. Currently, there are only four public universities namely The University of Malawi (UNIMA), Mzuzu University (MZUNI), Malawi University of Science and Technology (MUST), and Lilongwe University of Agriculture and Natural Resources (LUANAR). This is against a population of around 18 million people in the country. As such, access to the public universities is very limited due to space availability. In 2008, public universities in Malawi admitted only 0.03% of the eligible students (Chawinga & Zozie, 2016). Msiska (2016) notes that although students' enrolment reports in the public universities vary with different sources, the underlying fact remains that in all cases, the sources point to terribly low enrolment rates. For instance, Msiska's study notes that the World Bank (2010) puts the figure at 0.3%, the Southern African Regional Universities Association (2009) puts it at 1% while Ng'ambi (2010) indicates that only 0.6% of those eligible are actually enrolled

(Msiska , 2016). Sharra (2012) also observes that out of 102651 students who sat for the 2011 Malawi School Certificate of Education (MSCE) examinations, only 908 students were enrolled in the University of Malawi, which remains the biggest public university in terms of intake numbers in the country. This was out of a total of 8507 candidates who had sat for the 2012 University Entrance Examinations (UEE) out of which 6373 passed, representing a 75% pass rate (Sharra, 2012). For LUANAR, which based its selection on the same students who had applied to the University of Malawi, 456 students were admitted. In the same year, Mzuzu University whose admission system was different from that of the other two public universities enrolled 366 generic students. For the university, a total of 6,217 candidates applied for admission into the University. Out of these applicants 5,161 qualified for entry into the programmes they had applied for while 1,056 did not qualify. Mzuni never administered university entrance examinations – it used the candidates' performance at Malawi School Certificate of Education (MSCE) or its equivalent as the academic basis for merit ranking of candidates (Mzuzu University, 2012). This demonstrates how a large percentage of candidates who had qualified for admission were left out because of limited space. A combination of these statistics renders Malawi one of the poorest ranking countries in the world in terms of access to higher education, creating the basis for swift reforms and interventionist approaches guiding the limited access.

Admission into public universities in the country has often taken various forms. Initially, there was only one public university in existence – The University of Malawi – founded in 1964 (Msiska, 2015). With the initial enrolment consisting of a total of just 90 students in 1965 (Valeta, Sefasi, & Kalizang'oma, 2016), admission into the university was based on candidates' performance in the MSCE examinations in secondary school conducted by the Malawi National Examinations Board. However, government modified the admission policy, citing inequalities in access to university education within the public university system. This was a result of the pattern of colonial education which saw Malawians from the north accounting for many of the most senior positions in education and the civil service (Carver, 1994). The government therefore repeatedly took administrative measures to try to reverse the imbalance. This marked the introduction of the university Quota System in the regime of the country's first postcolonial president, Dr. Hastings Kamuzu Banda. A regional Quota System was first introduced in 1969 (Carver, 1994). In 1987 a more stringent district Quota System replaced the regional system. The main reason for the introduction of the policy was a perceived regional underrepresentation in the university. However, the system was outlawed in 1993 by the High Court of Malawi (University World News, 2010). The court argued that the policy 'was discriminatory and in violation of the fundamental right of Malawian citizens to

equitable development through equal opportunities to access higher education, regardless of one's district or region of origin or ethnicity'(Manyukwe, 2008).

In 2009, the release of University Entrance Examination (UEE) results suffered a prolonged delay resulting from a court case that had been filed by two concerned members of the public against Council of the University of Malawi. The concerned parties argued against the re-adoption of the Quota System under the new banner 'Equitable Access to Higher Education'. Popularly termed Quota System in public discourses, the policy was re-introduced following a re-iteration of the sentiments that had led to its introduction in 1969 and the subsequent tightening up in 1987. Government cited the same regional underrepresentation in university enrolment as the cause for the policy's re-adoption, with the purpose of ensuring that each of the country's 30 districts had specific allocation of slots for students' enrolment in public universities. This was despite an order by the High Court in 2008 barring the University of Malawi from implementation of the policy (Manyukwe, 2008). In defence of the reform, government argued through public broadcasters and interviews on various forums that the reform was not targeting people from a specific region; rather it was aimed at giving every Malawian equal opportunity to university education. The University Council in 2009 won the case, marking the actual re-adoption of the system, with the 2010 UNIMA cohort being selected on this new basis.

2   Related Literature

Quota System is not a strange phenomenon in discourses relating to access to higher education around the world. As an affirmative action, it has been deployed by various governments globally as a means of redressing social injustice manifested in the underrepresentation of certain groups of people in institutions of higher learning. The historical background of racial discrimination in countries like the United States of America and Brazil, as well as the caste systems of India has often led to the need for affirmative action in university admissions. In the United States, racial quotas in students' admission to university have been in existence since the 1960s when President John F. Kennedy created the Council on Equal Opportunities in 1961 from which the policy evolved (CNN, 2018). The history of racial discrimination and the subsequent denial of education of the country's Hispanic and Africa Americans form the social basis for the implementation of the Quota System (Sabbagh, 2011).

Although it might appear as straightforward that the policy is a necessity given its justification, Moran (2006) notes that affirmative action in the United States remains contentious. The race-conscious admissions have been subject to lawsuits since the 1970s. The 1980s and 1990s saw some twists as the debate

intensified, with lower federal courts starting to reach remarkably different conclusions about the constitutionality of considering race and ethnicity to achieve diversity in the student body (Moran, 2006). Complaints about reverse discrimination and racial quotas from white applicants have been at the centre-stage in these court cases, leading into a ban of the policy in eight states, among them California, Oklahoma and Florida (Desilver, 2014). However, such bans have normally been followed by other affirmative action measures in recognition of the disparities. While admitting that the use of affirmative action programs in college admissions has roiled campuses and the public for years, leading to the aforementioned state-passed laws banning the practice, a 2014 survey by Pew Research Centre found that Americans overwhelmingly support affirmative action. According to the survey, 'Americans say by roughly two-to-one (63% to 30%) that affirmative action programs designed to increase the number of black and minority students on college campuses are a "good thing," according to the survey conducted in 2016,' almost the same result Pew Research found in a similar survey in 2003(Drake, 2014).

Similarly, racial discrimination has also led to the introduction of Quota System in university admission in Brazil. In the country, affirmative action policies for entrance into higher education have been put in place since 2001 (Telle & Paixão, 2013). However, the policies have also stirred controversy, attracted criticism and undergone juridical dispute precisely on account of the forms of classification they employ (Brandão & Marins, 2007). Previously, entry into university was based solely on merit – a process which favoured whites because of their socio-economic background emanating from the country's historical context again (Andrade, 2004). Following this system, a study by Santos and Queiroz (2016) notes that 'the majority of students who enrolled in majors of high prestige and status, like Medicine, Architecture, Law, Odontology, Engineering and Psychology, were white students from the middle class with high incomes, who attended private schools and whose mothers or fathers had higher education'. Demonstrating the inequity in admission at the Federal University of Bahai, the study also observes that non-white students for example fell short of 10% of the offered spaces with a reported non-existence of indigenous students in the university and the percentage of students from public schools failing to reach 20% in the prestige majors (Santos & Queiroz, 2016).

In India, government instituted reservation policies or quotas to redress injustices and create systems that foster equal opportunity in Indian education in 1982 (Bhattacharyya, Woods & Lykes, 2017). However, Quota System in university admission is also a highly contentious policy. Deshpande (2012) cites three main reasons for this. Firstly, there is disagreement over the assessment of caste disparities. Some quarters argue that even if there were disparities, they would not be significant enough to warrant affirmative action in access to higher education. The discourse also tends to question the extent and sphere of the

disparities and a possible review of state of affairs (Deshpande, 2012). The second question in the contention is on whether caste is a valid indicator of backwardness and whether affirmative action must be perceived in terms of class/income or other social markers such as religion. The last aspect of the debate is on whether affirmative action is an appropriate intervention measure at all that it can successfully redress the problems of inequity in access to higher education perpetrated by the caste system (Deshpande, 2012). The Gross Enrolment Ratio in higher education in India exposes caste variations, with the lower castes having a consistent underrepresentation in the country's higher education system. Further, in all caste groups, urban participation rates are consistently higher than rural rates and gaps have widened over time (Deshpande, 2012).

In Malawi however, the affirmative action in admission into public universities is neither a result of racial discrimination nor the caste system. The background to the introduction of the Equitable Access to Education has been regional underrepresentation. A few scholars have conducted studies and written on the system, mostly on its negatives in a multi-ethnic country like Malawi. Carver (1994) attributes the conception of the Quota System to colonial legacy. He argues that due to the pattern of colonial education, Malawians from the northern region have accounted for many of the most senior positions in education and the civil service. This is in line with the argument by Michael (1978) who posits that the northern region had longer and more deeply rooted traditions of educational interest and achievements than the rest of the population resulting from a set of complex historical, cultural and geographical reasons (Chivwara, 2013). Kapito (2016) agrees with the reasoning behind the re-adoption of the policy. In response to a critique of Quota System, he argues that its adoption was the first step in the right direction towards addressing the disparities in access to higher education. However, he proposes a more effective adaptation of the system to capture privilege and prestige which inform the social backgrounds, unlike the trajectory of 'districtisation' of the country followed in the current policy.

However, for some critics, the re-adoption of Quota System has its origins in regionalism. Shawa (2011) argues that by re-introducing the policy in 2009, the Malawi government sought to achieve narrow political aspirations based on regionalist logic. In reference to the 1987 modification of the policy, where admission to university became partially based on one's district of origin, he notes that 'the Malawi Congress Party government introduced a quota policy in selecting students to the University of Malawi based on district of origin and district population, which eventually disadvantaged the minority Tumbuka (predominantly resident in the northern region) speaking people's access to university education' (Shawa, 2011). As Sharra (2012) argues, the Quota System limits the admission of students from the northern region, who are believed to be

disproportionately more than their counterparts in the central and southern regions. Similarly, Makwakwa (2009) argues that the University of Malawi under the direction of the executive believed that the merit-based system was unjust and contained some regional distortion.

Some scholars have even attributed Quota System to the birth of a new form of inequality where segregation is skewed towards those whose origins are districts that generally do well in secondary school national examinations. 'Msiska (2013) points out that due to the Quota System of selection, many students who pass well in national examinations but come from districts that usually perform well are left out for selection into higher classes' (Wamba & Mgomezulu, 2014). They argue that instead, 'students who have not passed as well but come from preferred districts are selected' (p.328). Similarly, Nyondo (2016) raises another concern: Quota System still disadvantages those with a low socio-economic background, regardless of their district of origin. This is because the ten slots that are provided for each district in a public university are up for grabs by the best performing students of the districts, who are mostly from good schools where they were able to pay large sums for tuition – unaffordable for and inaccessible to the poor (Nyondo, 2016).

3   Method

This is a qualitative paper with a desk review of available literature on several aspects of the Equitable Access to Higher Education in Malawi. Due to scarcity of comprehensive scholarly literature, it relies on both scholarly and non-scholarly sources for data collection and analysis. The data that the paper relies on has been collected from academic journals, periodicals, announcements on public broadcasters in Malawi and discourses in various public forums that the author has participated in such as regular conversations and the social media. In addition to that, the article also relies on reports by different organizations in and outside Malawi. For a clear understanding of the concept, there is also a partial review of literature related to implementation of the Quota System from various countries around the world.

4   What is the Equitable Access to Higher Education?

For a starter, the Equitable Access to Higher Education is a type of affirmative action aimed at rectifying and eliminating discrepancies in access to higher education in Malawi. Affirmative action is an active effort to improve the employment or educational opportunities of members of minority groups and

other vulnerable groups (Glum, 2018). Pertaining to access to higher education in Malawi, there have been other positive discrimination measures targeting the inclusion of more people with disabilities into the system as well as the reduction of gender disparity. Chivwara (2013) notices that government policies in Malawi demonstrate recognition of affirmative action to aid seven different vulnerable groups access higher education despite their different challenges. The groups include women, special needs students, geographical (regional/district) access disparities, low socio-economic status, students from rural backgrounds, orphans and the needy(Chivwara, 2013).To this regard, there have been several interventionist policies targeting these educationally disadvantaged groups.

In the discourses over selection into public universities, there have been various perspectives towards the notion of Equitable Access to Higher Education. While the public has often found it easier to refer to the policy as the Quota System, the University Council, the Ministry of Education, Science and Technology, and those in government have generally referred to the system with its official name, with a significant level of consistence: Equitable Access to Higher Education. This has a very significant implication. By consistent use of the term, government has evaded politicization of the policy through its own language politics. The term 'Quota System' is associated with a systemic hatred for the north due to the circumstances that surround the initial conception of the notion, culminating into political turmoil when a larger context and extension of the notion led to regionalization of deployment in the civil service in which teachers across Malawi were redeployed to their districts of origin in 1989. This followed allegations that northern teachers in other regions taught particularly badly in order that students from the central and southern regions should fail (Carver, 1994).

The Equitable Access to Higher Education is an affirmative action implemented against concerns of continued existence of disparities in admission into the public universities along geographical lines. Chivwara (2013) quotes Registrar of the University of Malawi who also doubles as a member of the University Council as saying 'Council began to think along the lines that, whilst the national cake is still small, if nothing is done about changing the current situation then you would have the same areas that have been documented in benefiting from higher education continue to do so' (p.89). According to the University Council, the affirmative action meant teach of the country's 30 districts would have ten spaces reserved for qualified students. Then, Blantyre, Lilongwe, Mzimba and Zomba districts would be classified into two zones namely urban and rural districts with each zone or category being guaranteed ten places (Chivwara, 2013). This is the case because Blantyre, Lilongwe and Zomba are not just districts – they are cities. And although Mzimba is just a district, it has a city located inside it namely Mzuzu. As such, these four districts have relatively higher populations than the rest, necessitating the need for the

increased allocation. According to the explanation, the balance of the available places would be distributed on the basis of merit according to population ratios of district of origin.

The policy further stipulated that districts that could not contribute the guaranteed required minimum of ten qualified candidates would have the remaining places put into the general pool to be redistributed to other districts. This redistribution would be based on the equity system according to the population ratios of the districts concerned (Chivwara, 2013, pp. 89-90).

However, this is only in principle, as a policy. The reality is that the ten slots for each district are always filled. This explanation provides the contextual background of the policy's re-adoption sufficient enough to understand its motive from a technical and educational perspective. However, the justification behind the policy's re-implementation has not put to rest discussions over its existence in the public sphere. The policy has remained highly contentious, with both genuine arguments and deliberate distortions on both sides in the debates over its intention and assumed effectiveness.

5   A Vehicle for Segregation? Criticism of the Policy

The Equitable Access to Higher Education policy has remained under constant criticism from scholars, religious figures, educational and political activists among others in Malawi on the pretext that it is discriminatory. When a re-adoption of the policy was announced in 2009, there were protests and counter-protests by various sections of the public. A greater section of the critics believe that the system targets students from the northern region. The basis for this argument can be traced back to the origins of the policy during the one-party era when the University Registrar was reportedly overheard doubting the meritocracy of students from the north (Sharra, 2012). The sentiments were brought to the general public through a 1988 article in *Chirunga Newsletter*, a student magazine of one of the most influential constituent colleges of the University of Malawi, Chancellor College, which 'described how the chair of the University Council was overheard expressing his displeasure at "the large proportion of students from the north who enter the university," wondering whether they were admitted on merit or not' (Sharra, 2012). Sharra (2012) cites the article quoted in a memoir by Jack Mapanje – *And the crocodiles are hungry at night* – in which the *Chirunga Newsletter* article quotes the council chair as proceeding to suggest that a Quota System would be introduced at the beginning of the 1987 academic year in September where student selection into the University of Malawi would be on the basis of their district and region of birth (Sharra, 2012). The registrar's sentiments were representative of a bigger and

influential political force that had the political power to execute the policy's implementation effectively – as had already been the case since the policy's actual introduction in 1969. This was President Banda's initiative, in what critics believe was a series of planned policies aimed at frustrating the north where most of his political opponents came from – a factor attributed to the colonial history of education. This has attracted labels to the former president as being 'anti-intellectual, neo-patrimonial paternalist ideology of father and his "boys" or children; land owner and peasants; chief and his subjects; master and his servants, and President and his people…'(Mkandawire B. , 2010).The anti-northerner sentiments were confirmed when the government later redeployed all teachers from the north back to their region, arguing that they were deliberately not giving better education to students from the other regions (Carver, 1994).

However reasonable the justification of the policy can be, the nonchalance and arrogance in the manner in which the policy was presented to the public adversely contributed towards its outright rejection as discriminatory, regionalist and politically motivated by some sections. It was not presented with a mark of nobility through careful presentation of scientific or statistical facts to support the affirmative action and present a convincing argument in its favour to the public. Instead, authorities relied on political power to execute the implementation of the policy. The implementation was successful, but discontent with the policy from sections that were against it kept rising inwardly until in 1993 when some students contested the policy in court. The abolition of the system in 1993 through the juridical order and the ruling's subsequent upholding when government appealed in 2008 reaffirmed the logic behind the anti-quota sentiments, and reinvigorated the argument against the system. However, in 2009, President Bingu wa Mutharika took to the media providing a case for the re-introduction of the policy. This was again followed by court battles which resuscitated the debate on the system's merits and demerits. This, once again, put to question the discriminatory and patronizing tendency of politicians in their regionalist attitudes, with some critics like Shawa (2011) arguing that 'the policy represents the neo-patrimonial aspect of the patron-client relationship in which for example both state presidents who pushed for the policy (Banda and Mutharika), seem to have done so in a quest to make the majority happy for political gains' (p.171).

The court battles that have surrounded Quota System from its earlier inceptions represent another main challenge of the system that may be linked to discrimination: constitutionality of the policy. According to Banda (2012), the implementation of the policy has procedural and substantive aspects that are complex in view of constitutional obligations. For the earlier, the issue is whether the means for putting into practical operation the Equitable Access to Higher Education conforms to the requirements of the Malawi Constitution (Banda, 2012). For the latter, the issue is whether the type of equality remedy in the

policy, and the design of the remedy, coincides with the type of equality remedies and the design of policies envisioned by the constitution of the Republic of Malawi. Banda (2012) argues that failure to take into account these concerns has the potential to derail the implementation of the policy on the basis that it is unconstitutional. This is what prompted the judicial review in 2009 on the policy, with the court finally upholding government's decision only on the grounds that those challenging it were not directly affected by the policy as was the case in 1993(Shawa, 2011).

The other main argument against the Equitable Access to Higher Education has been concerns that the system promotes mediocrity over meritocracy. Some sections have continuously expressed dissatisfaction with the system's university selection criteria arguing that giving priority first to top ten students in every district creates the risk of admitting low performing candidates from districts that have very few top performing students. This would be at the expense of districts where statistically students' performance in MSCE is mostly always high. Some critics have argued further that the system promotes laziness. In a letter addressed to the president in 2009, Harry Mkandawire, a Malawian politician, expressed such sentiments, demonstrating the perceptions some quarters have on the system.

In my view, the Quota System only serves to take away reward from well-deserving students. The system in the long-run will promote laziness because people will get the idea that they do not have to work hard because the government is going to take care of them (University World News, 2009).

A lot of other critics in various public forums have towed the lines of Mkandawire. At a cultural festival attended by the president of Malawi in 2015, Reverend Douglas Chipofya of the Church of Central African Presbytery's Livingstonia Synod asked government to abolish the Quota System, observing 'that students with better grades are left out in the selection process that aims to ensure equal distribution of university places across the country's three regions'(Nyirenda, 2015). The polarized opinions have resurfaced recently in a heated debate generated after the Vice President of Malawi on 21st July, 2018, endorsed the abolition of the Equitable Access to Higher Education. In the follow-up debates on social media, some contributors reiterated Mkandawire's argument. One critic argued that the system 'only promotes ignorance and less hard working spirit in those who are assumed to be less intelligent' while another argued that 'there is no merit in selecting someone with 15 points from one district and leaving out someone with 13 points from another district'. To put the latter into perspective, achievement in the Malawi School Certificate of Education (MSCE) is indicated by grades 1 to 9, of which grade 1 is the highest and grade 9 is the lowest. Candidates awarded grades 1 to 6 reach the equivalent standard of the General Certificate of Education (GCE) ordinary level pass in the United Kingdom. Grades 1 to 2 are distinctions; grades 3 to 6 are credits; grades

7 and 8 are passes; and grade 9 is a fail. Candidates are awarded an MSCE if they either obtain a pass in six subjects, including English, with a credit in at least one of them, or pass five subjects including English, with a credit in at least three of them. As such, a candidate with the highest score in MSCE stands at 6 points (1, which is a distinction, in each of the six required subjects). Ideally, this means a 13 points MSCE certificate is stronger than a 15 points certificate.

The last main argument against Equitable Access to Higher Education is that it is perpetrating the same inequalities it is meant to redress, in a new form. Critics argue that a re-adoption of the policy has turned public university admission into a struggle between the 'haves' and 'have nots'. This argument posits that as true as it might be that the ten reserved places for each district are filled by deserving students, usually the students are from top schools where enrolment itself relies on a student's strong financial background. In an analysis on how Quota System is worsening inequalities, Nyondo (2016) assesses the plight of two boys, both from Chitipa district in northern Malawi. One attends a heavily under-resourced remote school where the highest performer in its MSCE history has only managed to score 29 points. The other attends a top tier boys' private secondary school in Blantyre City, Malawi's commercial capital. The differences between the two are enormous: from resource availability to exposure. However, much as their performance during MSCE examinations will reflect their different plights ideally through grade disparities, the Equitable Access to Higher Education will put them in a single basket during the selection process into university on the pretext that they are from the same district. The consequence is that because the first candidate's scores are poorer (often resulting from the nature of the school he attended) the selection process will favour the latter (Nyondo, 2016). To demonstrate the performance disparities between various schools, while by 2016 Wenya Community Day Secondary School in Chitipa had not produced a candidate with points better than 29 in MSCE examinations, a top tier very expensive school in Mzuzu city in the same northern region has a different story. In 2013 alone, Marymount Catholic Secondary School recorded 105 students out of 167 with points between 6 and 20 (Andiamo Trust, 2013). As such, those that go to under-resourced schools are at a disadvantage because their performance in MSCE often fails to grant them automatic entry into public universities through the top ten reserved slots for each district.

6   A Different Perspective

In the midst of the contentious debates over the policy's implementation, there is a need to explore more perspectives. The discourse must tilt towards acknowledging both the challenges and successes of the Equitable Access to

Higher Education, often ignoring the flaring emotions and politics that have ruined moderate deliberations over the policy. However, the adoption of such a perspective requires acceptance of the need for affirmative action to aid the educationally disadvantaged access university education at the same rate as others. This leads to another challenge: acceptance that there is indeed an existence of geographical disparities in university enrolment, and that such disparities can be rectified through geographical quotas. Addressing concerns raised by sections against implementation of the Quota System is vital to unlocking this new discourse.

First, it must be acknowledged that where there is proof of social disparities rooted in historical or political situations (of which the system cannot alter), it becomes just to consider ways of rectifying the problem so the social injustice is brought to a halt. It is in this principle that countries such as USA, Brazil and India have found themselves implementing racial and caste quotas in their university admission processes as a better alternative affirmative action. When arguing for, or against implementation of the policy, it is imperative to include evidence of the existence of the geographical disparities in the country to see if it warrants such positive discrimination or not. There is scholarly evidence that proves that when the policy was made more stringent in 1987, Malawians from the north were generally at an advantage educationally because of the patterns of colonial education as the missionaries first established strong schooling systems in the north before moving to the other regions (Carver, 1994; Mkandawire, 2010).

For example, although the first mission was established in the Shire Highlands by the universities of Oxford and Cambridge under Bishop Mackenzie in the southern region in 1859, it withdrew in 1862 on account of loss of its members by sickness and other problems, only to be re-established much later in 1881 with its headquarters on Likoma island in the north. Before this re-establishment, another mission that was to become prominent and remains relevant in education to date was established in the country in 1874. The Livingstonia Mission, named after a famous Scottish explorer Dr. David Livingstone, was founded by the Free Church of Scotland, and located in the northern region too. These missionaries were joined by the Church of Scotland Mission in 1876, which chose the site of the present–day city of Blantyre and established themselves in the Shire Highlands (Colonial Reports - Annual, 1928). These missionaries were the pioneers of European form of education that has continued to date.

Now, schooling is a filial culture, it passes down from generation to generation through the family. 'There is consistent evidence that parents' education predicts children's educational outcomes, alongside other distal family characteristics such as family income, parents' occupations and residence location' (Eccles, 2005). Therefore, the colonial education pattern put feeder-communities to the missionaries' schools at an advantage, exposing Malawians in the north to

colonial education earlier than their counterparts in the other two regions, and this heavily impacted access to higher education with time. As a result, as of 1987, Malawian students from the north constituted nearly 50% of university entrants against the region's 12% of the total Malawian population (Mkandawire, 2010).The implication was a continued education pattern similar to the colonial establishment where one region would become dominant in technical expertise, often leading to other social stratification problems in occupation of various public and private offices – a recipe for public discontent in the long run.

While there is statistical evidence of regional underrepresentation in public universities necessitating the policy's adoption, statistics have begun showing that the policy is positively impacting equity in enrolment in universities. A study by the World Bank on UNIMA enrolment per 100,000 residents in each district for 2009 alone demonstrates significant variation between districts in enrolment. The districts of Neno, Ntcheu, Mwanza and Rumphi benefitted the most with 14 students per 100,000 residents drawn from each, while only 6 students were admitted from Lilongwe and Mzimba (Mambo et al, 2016).However, examination of enrolment data for 2010 demonstrates an improvement in the allocation of enrolment by district per 100,000 inhabitants, with the mean for admission from each district rising from 10 to 17 per 100,000 (Mambo et al, 2016). From the analysis, it is apparent that the policy is positively impacting the equitable distribution of enrolment across districts.

The other significant argument that must be carefully addressed relates to politicization of the public universities' admissions. As it has often been argued that the purging of Malawians from the north through the Quota System is also a means of advancing political agenda by various ruling parties (Shawa, 2011), there is need to establish truth in such sentiments. Mkandawire (2010) argues that the system's very adoption resulted from Dr. Banda's plan to frustrate the northern region which due to its higher levels of education harboured some of the most influential critics of his policies. This could be true considering the political climate during his era, from a 1964 cabinet crisis to his downfall in 1994. Further, there are postulations that Dr. Banda's anti-northern policies targeted appeasement of the majority of Malawians at the expense of the minority Malawians in the north for populism. The latter becomes a critical and seemingly more valid point when applied to the multi-party political dispensation of Malawi where leaders strive to impress the public for re-election into office. As such, when President Mutharika endorsed the Quota System too in 2009, the talk of political appeasement easily resurfaced (Shawa, 2011).

Although the theories around politicization of the policy might be valid, the critics often ignore the technical explanations behind the policy from the authorities responsible for its implementation. The politicization discourse has often been guided by political and tribal logic without any attempts at scrutinizing the policy from a technical perspective. The main challenge is that

the policy has been hijacked by politicians and used as a campaign tool in convincing various audiences for political mileage. It has become fashionable, for example, when conducting political rallies in the northern region, to call for the abolition of the system without any explanation on the alternative measures in redressing the disparities the policy seeks to rectify. In USA, in the eight states where Quota System has been abolished, they have devised new alternative ways of dealing with the racial disparities in access to higher education (Desilver, 2014).The bottom line is the recognition of the existence of disparities, which the critics of Quota System tend to disregard, or relegate to insignificance. While some critics of the system have called for a widened access to higher education through the construction of more public universities, there is still no clear alternative on the short-term plans that would replace the system. But this may arise from the fact that they lack understanding of its origins, which is fuelled by the manner in which the policy has always been (re)adopted. During both the Banda and Mutharika regimes, it was simply imposed, without sufficient attempts to explain with factual and statistical proof to the public why the policy was justifiable – and for how long it would be in place until satisfactory expansion in access to university education was achieved.

7   Addressing the Main Issues

The criticism of the Equitable Access to Higher Education requires an in-depth analysis, followed by action. There is need for exploration of plausible and realistic solutions, both long-term and short-term. However, coming up with a long lasting solution is a challenge on its own because the main problem is financing. But government cannot evade its responsibility of making higher education as accessible as possible to everyone willing to pursue tertiary education while clinging to the principles of equity and justice. Reflections over this have led to various suggestions over the right course of action that government has to adopt. The suggestions range from abolition of the system as a whole to its modifications in the short-term while banking hopes on speedy public university constructions and expansions.

In the short term, as Mambo et al (2016) recommend, the priority should be in monitoring implementation and outcomes associated with this policy to ensure its ongoing contribution towards improved equitable access. This monitoring must go hand in hand with sensitization campaigns highlighting the benefits of the policy to the general public. Thus, there is need for transparency in explaining to the public on the selection procedure to clear doubts of regionalism in its implementation. A clear explanation, or availability of documents relaying the procedures to the public, would render ineffective the tendency of politicization

of the issue. The vulnerability of people towards making uninformed decisions would be minimized, paving way to genuine debates on the merits and demerits of the policy.

Another short-term alternative is to skew the policy towards the social backgrounds of the students, not necessarily through districtisation. All districts have vulnerable families whose children fail to make it to top schools in spite of what statistics project about the overall levels of education in the different districts. As such, admitting students to universities based on their districts of origin still risks leaving the poor in the same spot they have always been, only this time with no interventionist policies to lift them out of their plight. This form of Quota System would be successfully implemented through 'profiling university graduates and current students in order to determine the legitimate population to benefit from this positive discrimination' (Kapito, 2016). However, the challenge with this is that it might still lead the discourse to the starting point again, where some sections of the society will still feel discriminated against. This is because through the same historical and colonial reality of the trends of education in Malawi, the social backgrounds of families originating from areas that had earlier exposure to colonial education remain advantaged as they pioneered working in the civil service in both the colonial and postcolonial governments. The trend continued through filial and generational influence.

In reforming the policy, there is also an argument for a possible adaptation of the system into one that targets school disparities. This relates to the argument of quotas on financial basis because the disparities in schools emanate from funding challenges. International schools, grant-aided schools, top tier private schools and other conventional government schools are well funded unlike the majority community day secondary schools. In turn, the top schools tend to send a lot of students to public universities since their MSCE performance is generally more satisfying. This is irrespective of their districts of origin. The rest either rot in the village or hustle for alternative post-secondary studies in private institutions or technical education. However, a setback with such a reform would be where in recognition of the odds of selection into university, wealthy students would try enrolling in the lowly ranked schools to beat the system, while at the same time enjoying a sufficient supply of materials funded by their families for study in their homes.

Cheating through the system is not uncommon. In the current system, candidates have been caught changing names and registering their origins in districts they perceive advantaged. In an interview with Times in 2016, one candidate who had cheated his way through said switching from a highly-populated and competitive district to a less populated and less competitive one made it easier for one to get considered for admission into the universities (Times, 2016). The research by the news group had managed to identify three

students from three secondary schools from all of the country's three regions who had changed not only their districts of origin but also surnames to stand a better chance of selection (Phiri, 2016).

The long-term solution for the system however rests in continuous expansion of capacity for public universities in Malawi. Government and the private sector must collaborate in expansion and construction of universities. Measures have already commenced, as can be observed through the construction of the Malawi University of Science and Technology which started its operations in 2014 and Nalikule College of Education which opened in 2017, the development of Bunda College of Agriculture into a full university (Lilongwe University of Agriculture and Natural Resources), the upgrading of Domasi College of Education, and now the construction of Mombela University as well as the unbundling of the University of Malawi which will evolve into four full universities, creating room for further expansion in the near future. However, the projects are not being implemented at the necessary speed, which renders them less useful when compared to the ever-increasing demand for university education in the country.

8   Conclusion

Disparities in access to higher education in Malawi are a reality. The inequity in the system has been reflected since the start of public university education in post-colonial Malawi, and continues to manifest itself. As the paper has established, the need for affirmative action through the Equitable Access to Higher Education continues to face enormous criticism from certain sections that feel segregated against. The paper also finds that this has been largely due to an improper implementation of the policy lacking sufficient awareness to the general public on matters relating to its complexities and significance. The paper has also noted that the discourse on the implementation of the policy is mostly hijacked by tribal and political reasoning, denting meaningful public engagement on the matter. However, the paper establishes the need to carefully examine the criticism and build from it solutions that are befitting to the betterment of the country's education system while at the same time not deviating from the human rights' principles of equity. In addition to the various recommendations on possible modification of the policy to eliminate some of the challenges, the paper strongly advocates for a better long term solution to the disparities, which is the expansion and construction of more public universities for an increased admissions capacity. The paper generally agrees with the need to maintain the Quota System as a necessary measure of redressing the current disparities, but it also endorses other critics' recommendations for an equity-oriented system that

targets the disparities based on the socio-economic status of the candidates' families.

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Marketing Mix and Students' Enrolment in Private Universities in Kwara State, Nigeria

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Abstract. This study aimed at presenting an acceptable marketing mix for private universities in Kwara State. The study observed the increasing number of applicants and relates this to the not too impressive patronage of these admission seekers to private universities. The study adopted a survey research method and used a research questionnaire titled "Marketing Mix Services and Students Enrolment". The data collected were analysed using means, t-test and Pearson product-moment correlation statistics. The findings revealed that marketing mix can increase student enrolment and that the application of marketing mix is still low for private universities in the state. It was therefore concluded that marketing mix adoption would significantly boost students' enrolment for these universities. Hence, the study recommended that the universities identify the marketing mix that suits their situation. The universities are also urged to use price and promotion to enhance their student population and, by so doing, enhance their income base.

Keywords: Marketing mix; Enrolment; Price and promotion.

1   Introduction

Every society strives to provide educational service to its citizens. Efforts to ensure that citizens get good education stem from the public view on education as a society leveller and instrument that can be used to close the gap between the haves and have not in the society. In Nigeria, the general population explosion experienced has led to demand for the establishment of more schools in the country. The resultant expansion in the primary and secondary school population today poses demand for the establishment of more institutions of higher learning to accommodate leavers of the lower level schools seeking higher educational qualifications. Over the years, there has been increasing demand for university

admission through the Joint Admission and Matriculation Examination (JAMB). The population of students seeking university admission through JAMB is massive for equal entrance opportunities to public universities. The situation has necessitated private participation in the establishment of universities to provide university education for deserving students.

1.1   Private University Education in Nigeria

The history of private universities in Nigeria can be said to have evolved in two historic phases of: One, during the Second Republic political administration of President Shehu Shagari (1979-1983); two, during the Fourth Republic political administration of President Olusegun Obasanjo, (i.e.,) 1999 to 2007, (Belfield and Lewin, 2003). The first phase did not record as many significant breakthroughs as the second phase, when in the words of Oladimeji 2017, necessary machineries were put in place for proper take off of private universities. At this time applications seeking for the establishment of private universities were submitted by individuals, religious bodies and corporate organizations.

   The first sets of private Universities approved by Nigerian Government in 1999 are Igbimedion University, Okada, Edo State; Babcock University, Ilisan-Remo, Ogun State; and Madonna University, Okija and Anambra State. These approvals, according to Obasi (2006), were as a result of the failure of public universities to absorb the increased number of applicants. Today, private universities operation in Nigeria is a huge business enterprise, though plagued with its own associated problems of legal status, quality assurance, and cost of service (Oladimeji, 2014). Despite the problems, Oladimeji still believed that these private Universities possess better equipment, newer buildings and better facilities than their public counterparts. The number of officially approved and operational private universities in Nigeria as at 2015 was 61 (Oladimeji, 2017), offering various courses in Sciences, Medicine, Law, Technology, Social Sciences and Humanities among others. These universities also play the role of ensuring improved access to University education. The presence of these Universities means a more aggressive publicity, general communication about the institutions' values, prospects and quality of service if they are to enroll the number of student needed for the substance of these institutions steaming from public confidence.

1.2   Educational Marketing Mix

The concept of educational markets was first conceived among Western Countries between 1980 and 1990 (Mehrda, Ali, Reza and Seyyed, 2012). This snowballs into the existence of competition for service provision among schools.

As unique and important this marketing is to institutional growth, topics on institutional marketing are rarely discussed, may be as a result of lack of awareness on the parts of school administrator. However, the current trend of low enrolment in most of the private secondary schools in Ilorin Metropolis, due largely to economic situation has made the scramble for the patronage of the few students whose parents are ready to pay the fees become very intensive. Hence, the consideration of mechanisms that would enhance public/ parent confidence in these schools.

1.3   Concept of Marketing

Marketing is a regular management process that identifies customer needs and wants (Foskett, 1992). Hence, identification of the basic school-service needs of the parents and the communication of the services and image of the school to the parent is the basic task of educational marketing. Educational marketing has no effect without its ability to have transferred the image of the school to the society (Oplaka & Jane, 2004). Educational marketing is designed to communicate and deliver educational programs in a way that it appropriately recognized the needs of the people and present a service aiming towards the satisfaction of these needs. It is a means through which the school develops ways of communication with its environment to promote public awareness about its image, goal, value and services among students, their parents and the general public.

However, it is worthy to note that the needs and wants of parents are the most important component for recognition in any educational marketing programme. Also, since these parents do not necessarily share similar needs, it is important to recognize and analyse the behaviour of the parent in relation to the priorities of the school. Pardey (1991) and Hanson (1996) also believe in the interrelationship between parents' behaviour analysis and school priorities. Most marketing experts and researchers (e.g. Davids & Ellison, 1997; Foskett & Hemsley-Brown, 2001; Hansons 1996; Kotler & Armstrong, 1999; Mehrdal et al., 2012) propose that schools should follow several stages when analysing their marketing strategies. These stages include: marketing research and analysis of the marketing environment; formulating a marketing plan and strategy; implementing the marketing plans; and evaluating the marketing process.

1.4   Marketing Mix

Marketing mix or services are some kinds of controllable tool that producers or venders use to attract appropriate response from target beneficiaries of their product or service. However, according to Kotler and Keller (2009), the market place is not what it used to be. Today, the market place has radically changed as a result of some major and sometimes interlinking societal forces of; Network

information technology, globalization, deregulation, heightened competition, consumer resistance and disintermediation. All these have created new behaviours, new opportunities and new challenges for marketing.

It should also be noted that these variables of market behaviours, opportunities and challenges remain the major intervening circumstances that stand to determine the success of any marketing strategies. Therefore, for private universities to fully benefit from the opportunities available through marketing strategies, they should interlink the variables of marketing mix which Ivy (2008) describes as the 7P: price, people, promotion, physical evidence, place, product and process. These elements according to Chung-ken and Chia-Hung (2008) have a positive impact on consumers' product loyalty.

Price: This is the amount of money that the beneficiary of educational services pay to the institution for service provided. Price according to Soedijati and Pratminingsih (2011) involved all issue about tuition fee and other related payments.

People: This relates to all the individuals in the school who officially provide services for the students (Mehrdael, et al., 2012). Soedijati and Pratminingsih (2011) opined that the ability, skills, experiences and knowledge of the academic personnel are some of the most important factors that provide parental satisfaction when considering the choice of school for their children.

Promotion: This is the key element of marketing mix. It includes all the marketing efforts made to arouse the interest of the public towards enrolling their children into a school. Uchendu, Nwafor and Nwaneri (2015) opined that, the efforts include the use of social media, websites, face to face talk and media adverts as a communication link between the school and the target market. Bellend (2002) believed that most schools in the world use promotional activities of public relations (PR). That television and press advertising are not too common in the educational sector. Mehrdach et al (2012) noted that such mechanism as PR, expos and brochure and some other relevant promotional items used by the school for public advertisement.

Physical Evidence: This includes all school physical resources available for use by the school in providing student services and in carrying out day-to-day teaching learning activities. The intensity of school student services could be reduced by this physical evidence. Mehardad et-al maintains that university facilities and buildings can be considered as available physical evidence. Whereas, Ivy (2008) considered video projector and other facilities necessary to present lectures in classrooms as physical evidence. Hence, the first image of the university that comes to mind would be shaped by these physical realities.

Place: This variable of marketing mix relates to the actual location of the school. It is projected by such variables as distance, comfort and the extent to which it is ideal for teaching and learning activities. Leckhart (2005) believed that prospective parents choose a school which is located near their home. To

this, Yoo, Donthus and Lee (2000) believed that the reduction of travelling time to school could lead to a positive perception and thus has positive impact in improving the school image in the parent mentality.

Product: This, according to Mechardad et al (2012) relates to school facilities such as workshops, laboratories and libraries. These elements are similar in consideration to physical evidence. However, the peculiarity of this factor is that its availability is relatively linked to the courses available in the university. Thus, they are programme specific. Hence, price is the major factor of selecting university by prospective students (Matzorf & Agathi, 2003).

Process: This includes all the administrative functions of the University. It includes registration patterns, courses evaluation, examination procedures, result communication and student graduation (Mehardad et al, 2012; Ive, 2008). Also the teaching learning processes and school relaxation policy are some of the processes that could be used to project the image of the university.

The focus of this study is to examine the various marketing mix in ensuring positive enrolment increase among private universities in Kwara State. The study reviewed all the relevant means of advertisement as considered in the 7P of service marketing mix. However, the necessity of school maintenance of website is one factor that enhances school contemporary advertisement. This is because school and organisation websites mostly express the purpose, product and vision of the institution (Rayport & Jaworski, 2001). Since the target parent in the society today belongs to a generation that is active on social media (Konnel, 2014), there is the need for school to stamp its presence on social media such as Facebook, WhatsApp, Instagram, twitter, YouTube, etc.

It is worthwhile to note that the relevance of marketing mix and application of different types of media should not be overlooked by the educational institutions especially the private universities if they must create a lasting impression that could facilitate and attract parents and prospective students to them. Hence, creating awareness about the school program, product and physical evidence in terms of sufficient modern teaching equipment, social networking and a school website would go a long way in facilitating student enrolments (Uchendu et al., 2015).

1.5   Specific Objectives

The objectives of the study were to:
1. Identify the marketing mix that is deemed relevant and effective for increasing students' enrolment in private universities in Kwara State.
2. Determine the extent to which the private universities in Kwara State employ marketing mix in enhancing students enrolment
3. Find out if the marketing mix relate significantly with student enrolment in private universities in Kwara State

1.6 Research Hypotheses

HO$_1$: Marketing mix adoption by the private universities in Kwara State is not significantly low.

HO$_2$: There is no significant relationship between marketing mix and student enrolment in private universities in Kwara State.

2 Methodology

The study followed a survey design. It was carried out in Kwara State Nigeria. There are six universities in the state but only the four private universities of the six constituted the population of this study. Eleven participants (i.e. the registrar and ten students) were selected from each of the four universities. The students were randomly selected. A questionnaire titled "Marketing Mix and Student Enrolment" (MMSSE) was used. The questionnaire was subjected to both validity and reliability tests and adjudged suitable for the study. The data collected were analysed using means, t-test and Pearson product-moment correlation coefficient.

3 Findings

Table 1 shows the marketing mix that is deemed effective for increasing student enrolment in private universities in Kwara State.

Table 1: Effective Marketing Mix that Increases Student Enrolment (%, N=44)

Marketing Mix	Agreed %	Mean	Disagreed %	Mean	Rank
Price	97.2	.972	2.8	.028	2nd
People	88.1	.881	11.9	.119	6th
Promotion	98.2	.982	1.8	.018	1st
Physical Evidence	96.3	.963	3.7	.037	3rd
Place	90.6	.906	9.4	.094	5th
Product	96.3	.963	3.7	.037	3rd
Process	87.5	.875	12.5	.125	7th

From Table 1, it can be seen that of the seven elements of marketing mix, the respondents are of the opinion that good advertisement strategies (Promotion) which include television and radio adverts, social media and national dailies, are likely to increase student enrolment in the private universities. Therefore, if these universities can utilize in great proportion all the different means of advertisement and operate on good tuition system with very good infrastructure,

there is likelihood of increase in student enrolment. However, the marketing mix of people and process are of less significance in emphasis when considering marketing mix that can increase student enrolment as both place and process have the least mean percentages of .881 and .875 respectively.

Table 2: One Sample T-test of the Level of Marketing Mix

Marketing Mix	X	SD	t-calculated	Sig
Price	6.06	1.22	4.941	.000
People	5.88	1.02	4.682	.000
Promotion	6.13	1.13	5.638	.000
Physical Evidence	5.81	1.60	2.881	.039
Place	4.94	1.85	-.191	.850
Product	5.81	2.12	2.172	.038
Process	4.81	2.21	-.481	.634

N=44; df = 43; Critical t=2.806

Table 2 shows that the calculated t-values for five of the seven elements of marketing mix are greater than the critical t-value of 2.806 at the 0.05 level of significance. With these results, the respective null hypothesis that says the marketing mix adopted by the private universities in Kwara State is low and therefore rejected.

The implication of this outcome is that, if adequately utilized marketing mix of price, people, promotion, physical evidence and product, adoption by the private universities in Kwara State would enhance students' enrolment. At present adoption of the five marketing mix of price, people, promotion, physical evidence and product is significantly low.

Table 2 further indicated that the observed mean is less than the expected mean in two items. The calculated t-values were less than the critical t-value of 2.806 at the respective degrees of freedom and level of confidence. Therefore, the null hypotheses that stipulated that marketing mix adopted by the private universities in Kwara State is low was accepted.

The hypothesis that "there is no significant relationship between marketing mix and student enrolment in private universities in Kwara State" was tested as shown in Table 3.

Table 3: Marketing Mix and Student Enrolment

Marketing Mix	X	SD	Sig
Price x1	19.076	.902	.000
People x2	19.068	.893	.002
Promotion x3	19.100	.892	.001
Physical Evidence x4	19.300	.907	.000
Place x5	15.301	1.062	.531
Product x6	19.300	.891	.004
Process x7	14.281	7.627	.612
Student Enrolment y	20.000	.627	.000

Table 3 shows that at .05 significance level and 42 degree of freedom, the marketing mix of price (x1) with the p-value of p-value of .000 is less than .05 thus shows a significance relationship. Also the marketing mix of people (x2), promotion (x3), physical evidence (x4), product (x6) have a p-value of less than significance level of .05 (i.e., .002, .001, .000 and .004 respectively). These also shows levels of significance, hence there is a relationship between marketing mix of price, people, promotion, physical evidence and product and student enrolment in private universities in Kwara State.

Additionally, table 3 also reveals that the marketing mix of place (x5) and process (x7) with p-value of .531 and .612 respectively are greater than the .05 level of significance. This shows that there is no relationship between the marketing mix of place (x5) and process (x7) and student enrolment in private universities in Kwara State.

4   Discussion

Generally the finding of this study revealed that marketing mix can increase student's enrolment and that, the extent of the application of this marketing mix by the private universities in Kwara State is still low. The data collected showed that some marketing mix that can be adopted in the private universities to increase students' enrolment in their order of perceived effectiveness (Table 1). This means that using the marketing mix adequately (especially the higher ranked ones) would significantly increase students' enrolment in universities in the state. This would increase the institutions' income base and enhance their sustainability and quality of service delivery and improved institution effectiveness.

The result of the first hypothesis (Ho$_1$) revealed that the extents of adoption of marketing mix by private universities in Kwara State is still significantly low in most of the elements of marketing mix considered. However, if the institution adopted adequately, the advantage provided by the current information age, the school would have spent less but achieve much in information dissemination thus

portray the image and programme of the institution especially through the various advertisement outfits available on the social media network. This would significantly enhance student enrolment increase. This will also encourage students from diverse backgrounds as against the present situation where the patronage is limited to reaching the immediate surroundings.

The result on the second hypothesis (Ho$_2$) revealed that there is significant relationship between marketing mix items of price, promotion, people, physical evidence and product and student enrolment in private universities in Kwara State. By implication, if the universities can adopt adequately these marketing mix items it would adequately attract students' enrolment to the institutions. However it may not be necessary that all the marketing mix would to be adopted simultaneously. The university management should find the perfect match between what is obtainable in the current situation in their surrounding with the marketing mix that would be adopted to ensure that it effectively yields the expected result of going to boost students' enrolment to the university.

The findings in this study agreed with the findings of Medred et al. (2012) whose study provides among others that teachers in the institution can be of high influence in attracting parents to enroll their children in a school. Also those product factors (i.e. laboratories, workshops, libraries, etc.) would increase the service delivery ability of the lecturers and thus related positively to increasing student enrolment. Additionally, Kennedy (2014) is also of the opinion that the use of social media and other ICT driven advertisement can enhance student enrolment. This same opinion of the effectiveness of promotional factors was equally shared by Kotler and Keller (2009) and Uchendu et al. (2015).

5 Conclusion and Recommendations

The study revealed that some 7p marketing mix, if adopted as ranked in their order of perceived preference would bring about increased student enrolment. This study also shows that the level of adoption of the items of the marketing mix considered by the study was significantly low in most items. Therefore, the need to increase the intensity of the adoption of this marketing mix so as to enhance student enrolment. It was, therefore, concluded that marketing mix adoption would significantly boost student enrolment in private universities in Kwara State. It should be noted, however, that if there is tremendous increase in student enrolment, the universities' income base would also improve, thereby improving sustainability and quality assurance. Above all, this would reduce student competition for public universities which mostly have to grant admission to students beyond their carrying capacity. Therefore, it is recommended that:

1. Private universities in Kwara State endeavour to recognize and adopt the perfect marketing mix that is relevant for enhancing their students' enrolment. This will enhance increase in student enrolment as low income parent will take the advantage of friendly fees payment to enroll their children in the university. This would lead to student population increase and increase income base thus enhancing institutional sustainability and quality service delivery and general institutional effectiveness in the universities.
2. Private universities in Kwara State make provisions for promotion (advertisement) and continued infrastructure development in their annual budget. Also to include clearly the timelines and implementation strategies of such items for enrolment increase and general institutional effectiveness.

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Determinants of Academic Staff Retention at Makerere University and Kyambogo University

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Abstract. The objectives of this study were to establish whether demographic characteristics, interpersonal relationships, terms of work and work life balance influence the retention of academic staff at Makerere University and Kyambogo University. The study followed a cross-sectional survey design. Data were collected using a self-administered questionnaire from 298 academic staff of the two universities. The respondents were selected using stratified random sampling. The data were analysed using student t test, ANOVA and simple linear regression. The findings were that gender, terms of work and work life balance significantly influence retention. Marital status, age, work experience, level of education and interpersonal relationships were also found to influence retention albeit insignificantly.

Keywords: Retention; Work-life balance; HRM.

1   Introduction

World over, academic staff retention (ASR) poses one of the greatest challenges to universities (Tettey, 2006). Although studies like Tanwar and Prasad (2016); Bibi, Pangila and Johari, (2016) date the general problem of employee retention to the early 1900, in higher education, this problem picked momentum in the last decades of the 20th century (Salesho, 2014). Miller and Albagami (2016) showed that around 20 percent of public university, faculty members in the United States of America leave their positions annually. This case is not any different in Africa, where Tettey (2009) showed that ASR is one of the serious challenges which affects developing countries. In Uganda, Kajjubi 1990 showed that a total of 18 professors and 34 PhD holders left Makerere University between 1986 and 1989 while Kyaligonza (2009), Mugimu, Katunguka and Nakabugo (2013), Nabawanuka (2011) trace this problem to the period between 1971 and 1979,

when President Idi Amin plunged Uganda into dictatorship and economic ruin. The study was anchored on the job embeddedness theory (JET). JET was propounded in 2001 by Mitchell, Holtom, Lee, Sablynski and Erez (Young, Aliang & Shuck, 2013). The theory states that for an employee to stay on the current job, there must be links, fits and sacrifices. Links are discernible connections between people and institutions including social, psychological, financial and *biographics*. The second aspect of the theory is that of fits, defined by Holmes, Burghurst and Chapman (2013) as the employees' perceived compatibility or comfort with the work organization. The last concept of the theory is sacrifice which is concerned with material and psychological benefits that an employee can lose at any time one chooses to leave the work organization.

In this study, it was hypothesized that academic staff may be leaving the university due to lack of links between biographic characteristics and what the university offers. Second, the researcher hypothesized that the low rate of ASR would be arising from the lack of fit between work environment (work-life balance and interpersonal relationships) which may be perceived as uncomfortable and unconducive. Finally, JET was opted for since the study was intended to establish whether academic staff consider terms of work as a sacrifice to be retained on their job in Makerere and Kyambogo Universities.

1.1   Problem

High retention of academic staff on their job in higher institution of learning like Makerere and Kyambogo Universities is unequivocally critical for the realization of quality higher education (Tettey, 2006). As a result, several strategies like staff training and offering promotions have been put in place to enhance ASR. Despite this, Kasozi (2009) has identified that ASR in public universities in Uganda (Makerere and Kyambogo Universities) has remained low. Members of academic staff have continued to exhibit poor citizenship behaviour such as lack of job ownership, poor sense of belonging, and being unstable on their job (Ddungu, 2013). Others have exhibited high intent to quit while others have continued to search for new jobs. Ddungu (2013) also reveals that in the year 2010 alone, over 50 senior academic staff left Makerere University for other universities and other organizations. In fact, Okello and Lamaro (2015) reiterated that between 2009 and 2013, Makerere also lost 26 top performing academic staff. These statistics were corroborated with what were reported in the Rwendeire Visitation Committee Report of 2017 which indicated that between 2015 and 2016, over 69 academic staff were lost from Makerere University alone. The situation has not been any different at Kyambogo University. According to Oyet and Alen (2013), Kyambogo University also lost almost the same number of staff in the same period. These loses in terms of senior academic staff is leaving the responsibility of providing quality higher education in the

hands of junior and inexperienced academic staff. If this scenario persists, the contribution of these universities to the realization of the national vision 2040 will be curtailed and their reputation will most likely decline. This current study is therefore meant to establish the critical factors that determine the retention of academic staff in the two universities in order to propose how the universities can reduce the loss of their most valued employees.

1.2   Objectives

The general objective of this study was to establish the factors that determine the retention of academic staff in Makerere and Kyambogo Universities in Uganda. The specific objectives were to:

1. Establish whether demographic characteristics determine the retention of academic staff in Makerere and Kyambogo Universities.
2. Find out whether interpersonal relationships determine the retention of academic staff in Makerere and Kyambogo Universities.
3. Establish whether terms of work determine the retention of academic staff in Makerere and Kyambogo Universities.
4. Find out whether work life balance determine the retention of academic staff in Makerere and Kyambogo Universities.

1.3   Conceptual Framework

The independent variable was operationalised into demographic characteristics involving education, marital status, age of academic staff and demographic characteristics (Figure 1). Interpersonal relationships involved lecturer to lecturer relationships, lecturer to administrator's relationships, lecturer-student relationships and lecturer non-teaching staff relationships. Terms of work involved recruitment, appointment, job security and job benefits. Finally, work life balance involved flex time given, holidays and leave opportunities. These were hoped to have a direct relationship on the retention of academic staff. It is hoped that when the aforementioned factors are in favour of academic staff, their job retention in the university in form of increased citizenship behaviour, ownership at work, high intent to stay on the job, continued service delivery, intent to remain, intent to keep on the job, and stability on the job would occur. The possible impact of a range of extraneous factors on this hypothetical relationship was acknowledged.

Independent Variables

Demographic characteristics
- Education levels
- Gender
- Marital status
- Age
- Experience

Interpersonal relationships
- Lecturer-lecturer relationships
- Lecturer-managers relationships
- Lecturer-student relationships

Terms of work
- Recruitment
- Appointment
- Promotions
- Job security
- Job benefits

Work life balance
- Teaching load
- Number (lecturer-student) ratio
- Marking load
- Deadlines
- Responsibilities assigned
- Number of student supervisees
- Flex time

Dependent Variables
- Ownership at work
- Sense of belonging
- Intent to stay
- Intent to remain
- Continued service delivery
- Intent to keep on the job
- Stability on job
- Citizenship behavior

Extraneous Variables
- Job support
- Experience at work
- Remuneration practices
- Appraisal scheme
- Organizational commitment
- Government policies
- Staff development
- Work environment

Figure 1: Conceptual Framework for the Study of ASR

2   Related literature

2.1   Demographic Characteristics and ASR

Various scholars (e.g. Coetze, Oethizen & Stuitz, 2016; Veloso Siluva, Dutra, Fischer & Trevisan, 2014; Kyndt et al., 2009; Ngobeni & Bezuidehont 2011;

Rehman, 2011; and Veloso et al., 2014) have studied demographic characteristics in relation to employee retention (ER). Veloso et al (2014) in a study about talent retention in different organisational contexts and intention of talents to remain in company using a descriptive analysis revealed that 57% of the Brazilian employers' current difficulties to retain employees were related with candidates' lack of qualifications. Ngobeni and Bezuidehont (2011) explained that demographic groups with different attitudes and beliefs constitute the modern work force such attitudes, world views, work values between young and older generations if not well addressed contribute towards high turnover intentions. However, Koedal and Xiang (2016) in a study about pension enhancements and the retention of public employees using regression analysis revealed that age enhancement increased retention possibilities of public employees.

On the side of gender, Kyndt et al (2009) in a study about employee retention in an organisational and personal perspective empirically revealed that gender was significantly related with employee retention. Nawaz, Jahanian and Tahreem (2012) showed some married employees have to leave their jobs to attend to family issues like taking care of children and parental leaves. However, all these studies raised theoretical and contextual gaps. Contextually none of the above studies was from the case of developing countries like Uganda. Theoretically, demographic characteristics particularly experience and its relationship on employee retention is not revealed.

2.2   Interpersonal Relationships and ASR

Shanghvi (2012) revealed that loss of trust and confidence in senior managers always contributes to high turnover rates in organizations. Pailla (2012) established that employees demonstrate civic behaviour by keeping on the job when they feel they are fairly treated by their employers. On the other hand, Salesho and Naile (2014) showed that employees are more likely to remain with the organisation only if they believe that the organisation shows more interest and concern for them if they receive regular positive feedback and recognition. However, this study was not carried in the context of Makerere and Kyambogo Universities where this study was centred.

Erasmus, Gobler and Niekerk (2015) studied employee retention in higher education institution and established that a positive significant relationship existed between managers and employees intent to stay or to leave. Meanwhile, Korantwi-Barimah (2017) studied factors influencing the retention of academic staff in Ghanaian Technical University and revealed that collegiality significantly related with ASR. The participants of the study showed that they enjoyed how their managers respected and valued their services. They indicated that they enjoyed working with the university because of interacting with the faculty (Fellow lecturers). However, this study did not show the influence of other

factors, namely, demographic characteristics, work life balance and terms of work on ASR. Suadicani, Bonda and Gyntelberg (2013) in a study about job satisfaction and intention to quit the job among Danish hospital employees using a descriptive and regression analysis revealed that collaboration among colleague, trustworthiness of oldest superiors predicted the extent to which employees could quit the job. Meanwhile, this study did not show the relationship between academic staff (employees) with lower level colleagues like students and none teaching staff which this study did.

Holtom, Mitchell, Lee and Eberly (2008) revealed that the quality of leader member relationship predicted employee retention. Employees whose individual values did not match organization values were more likely to turnover after 20 months of tenure. Compatibility between individual employees with group, positive relationships with mentors reduced protégés turnover initiations. Theoretically, Mullins (2010) observed that, social interaction is a natural feature of human behaviour. Cooperation among members is likely to be greater in united, cohesive group who are more likely to think of themselves as a group, work together effectively and are more likely to retain longer in the organisation. Meanwhile, the previous review was not an empirical field finding as the proposed study was in Makerere and Kyambogo Universities. Besides, Nawaz et al. (2012) argued that companies need strong and positive relations with employees to win their trust and confidence. Nonetheless, Long, Perumal and Ajagbe (2012) showed work place employer-employee relationship is one of the great employment topics from 20 century and that although much has to be done in favour of workers for their betterment and high job retention. They noted that the relationship between subordinates and super-ordinate is very crucial to employee retention. A sour relationship between the two parties leads to turnover while a positive relationship creates high job retention. Masum, Azam and Beh (2014) argued that once supervisors have good interpersonal relationships' with their sub-ordinates. This kind of relationship persuades sub-ordinates to have a sense of attachment and belonging on the job. Unlike the above review there was urgency to empirically ascertain the extent to which these staff relationships impacted on ASR in a developing world.

2.3   Terms of Work and ASR

Leip and Stinchcomb (2013) studied turnover intent of jail staff in the United States and with use of structural regression modelling, established that job tenure had a weak significant relationship on employees' turnover, with those having longer job tenure being more likely to think of leaving. However, this earlier reviewed study was carried out on jail staff while this study was on academic staff in Makerere and Kyambogo Universities. In addition, Matz et al. (2012) investigated predictors of turnover among Juvenile staff and with use of

Pearson's correlation co-efficient index revealed that lower perceptions of job safety and security strongly predicted the intent to search for a new job and eventually leaving after one year. However, job safety and security are one aspect of terms of work, other aspects like having offices, equipment among others were not considered in the reviewed study which this study did.

Likewise, Hausknecht et al. (2009) studied employee retention, performance based and job related differences revealed that terms of work significantly related with ones intent to stay or leave. Hourly workers place high value on work, better pay which is a designing element of transactional contracts as a characteristic that would force them to leave. Short hourly work typifies many elements of transactional psychological contract leaving employees at higher levels of moving away. Oladapo (2014) investigated on the impact of talent management on retention of staff using a descriptive analysis and revealed that job security had a predictive value on employee retention rates. Employees who were secure on the job were more likely to stay as compared to those who were not secure. However, the proposed study applied correlational and regression analyses.

Owence, Pinagase and Marcy (2014) studied the effects of academic staff turnover in the academic development centre in a historically Black University in South Africa. They revealed that giving employees short term contracts for a long period leads to uncertainties on the job. This consequently contributes to low retention rates. Similarly, lack of job security was associated to low retention. Alternatively, this study did not use a specific methodological tool like regression analysis which was applied in the current study. Likewise, Khan and Aleen (2014) studied the impact of job satisfaction on employee turnover in autonomous medical institutions in Punjab and revealed that pay, job safety and promotions significantly related with employee turnover. However, this study did not consider other determinants (i.e. demographic characteristics, work life balance and interpersonal relations) thereby raising a content gap that was filled in this study. Mapolisa (2014) in a regressive study of staff retention challenges in Zimbabwe's public and private universities revealed that contract leaves are only given to academic staff in senior positions. Junior and ordinary lecturers are marginalized in terms of provision of contract leave which makes them frustrated and they start searching for alternative jobs. More to this, Victoria and Olalekan (2016) revealed that employees with fewer length of service have greater intention to leave their universities than those with more years of service. However, this study was not on academic staff as the current study was in Uganda.

2.4   Work-Life Balance and ASR

Noor (2011), who studied work life balance and intention to leave among academics in Malysian public higher education institutions using Pearson

Product Moment Correlation Co-efficient index, revealed that work life balance negatively related with intentions to leave. The current study ascertained whether a similar circumstance existed among academic staff in Makerere and Kyambogo Universities. Agha, Azmi and Irfan (2017) studied work life balance and satisfaction of teachers' higher education in Oman and the findings revealed that work life balance significantly related with job satisfaction and, consequently, turnover intentions. Work and personal life enhancement were revealed as helpful in reducing absenteeism and employee turnover. However, this study was carried out in the Asian world which context was different from that of public universities in Uganda. Sultana and Hassan (2014) studied factors affecting employee retention in an organization and with the use of exploratory factor analysis revealed that provision of health and wellness programs were insignificantly related with employees' retention. However, it was not indicated whether this organization was academic-oriented. Still among the factors studied demographic characteristics, interpersonal relationships and terms of work were not included.

Maphanga (2014) revealed that work life balance significantly impacted on the intentions to quit. However, this study was in a utility industry quite different from a university setting. Whereas Munro (2015) studied work life balance, job and turnover intentions amongst information technology employees using t-tests, correlations and regressions and established that work life balance had a significant relationship with turnover intention. Work life balance dimensions like offering flex time, holidays creates possibilities for employees to retain on the job. Further, Olusumbo and Tuyin (2009) studied work family conflict, job satisfaction and labour turnover intentions among state university lecturers and revealed that work life conflict significantly related with turnover intentions of lecturers. Work family responsibilities were indicated as conflicting since they all require adequate time. Hence some lecturers would easily leave to attend to their family. However, simple linear regression analysis was not applied in the reviewed study as adopted in this study. Surfan, Abdallah and Diab (2016) studied the influence of work life balance on turnover intention in private hospitals and revealed that work life balance practice mainly work scheduling and work life conflict had a negative relationship with turnover intentions. However, issues related with working at weekends, were not address in the previous review which this study did.

3   Methodology

The study adopted the positivist paradigm involving use of a cross-sectional survey design. Two hundred ninety-eight (298) academic staff from Makerere

and Kyambogo Universities participated in the study. These were selected using stratified sampling. Data were collected using a self-administered questionnaire. These instruments were adapted from earlier instruments whose quality had been established by past researchers (Table 1).

Table 1: Variables in the Instrument and their Reliabilities

Variable	Construct	Items adapted	Source and reliability coefficient
Independent variable 1	Gender, marital status, qualification, age group, experience	Not Applicable	
Independent variable 2	Lecturer-lecturer relationship	07	Ssali (2009) α = 0.848
	Lecturer-manager relationship	09	Albaqami (2016) α = 0.884
	Lecturer-student relationship	08	Creasey, Jerus, Knapith (2009) α = 0.880
	Lecturer-non teaching staff relationship	05	Ssali (2009) α = 0.824
Independent variable 3	Terms of work	13	Oyet and Aleni (2015)
Independent variable 4	Work life balance	10	Dalina and Raya (2013) α = 0.731
Dependent Variable	ASR	12	Kyndt et al., (2009)

The reliability of the constructs was retested using Cronbach Alpha. Data was analysed using frequencies, percentages, means and simple linear regression.

4   Findings

4.1   Gender and Retention

The first hypothesis on demographic characteristics was that gender significantly determines retention of academic staff in Makerere and Kyambogo Universities. To test the hypothesis, that gender significantly determines the retention of academic staff in Makerere and Kyambogo Universities, a student's sample t-test was employed and the findings are given in Table 2.

Table 2: Gender and Staff Retention

Gender	Sample size	Sample mean	Sample SD	t	p
Male	186	3.19	0.425	2.556	0.006
Female	112	3.34	0.368		

The results in Table 2 showed that on average, female academic staff scored marginally higher on ASR than their male counterparts. However, student's t (t = 2.556) was bigger because the probability or level of significance (p = 0.006) was smaller than α = 0.05 (p<0.05). This implies that the retention of academic staff significantly depended on their gender. Female staff appear to have better retention. The null hypothesis was, therefore, rejected in favour of the research hypothesis that gender significantly determines retention of academic staff in Makerere and Kyambogo Universities.

4.2   Marital Status and Retention

The second hypothesis on demographic characteristics and ASR was that respondent's marital status significantly determined the retention of academic staff in Makerere and Kyambogo Universities. To establish whether there was variation in ASR by marital status, an ANOVA test was carried out and the results are given in Table 3.

Table 3: ANOVA in Retention by Marital Status

Marital status	Sample size	Sample mean	Sample SD	F	p
Single	51	3.264	0.442	0.288	0.750
Married	243	3.248	0.4015		
Others	4	3.1	0.47		

In Table 3, the mean score on ASR was highest for single lecturers (mean of 3.264). The level of significance (p = 0.750) was greater than α = 0.05 (p > 0.05). This meant that the variations of ASR in the university was insignificant, hence respondents' marital status has nothing significant to do with retention.

4.3   Rank and Retention

The third hypothesis on demographic characteristics and ASR was that academic staff rank significantly determined ASR. To ascertain whether there were differences in ASR depending on academic staff current rank, an ANOVA test was carried out and the results are given in Table 4.

Table 4: ANOVA in Retention by Rank

Current rank	Sample size	Sample mean	Sample SD	F	p
Teaching assistant	39	3.214	0.368	0.457	0.808
Assistant lecturer	93	3.270	0.424		
Lecturer	93	3.239	0.92		
Senior lecturer	47	3.263	0.483		
Associate professor	13	3.347	0.446		
Professor	13	3.141	0.396		

The results in Table 4 indicated that the mean score on ASR was higher for associate professors (mean of 3.347), followed by assistant lecturers (mean of 3.270), followed by senior lecturers (mean of 3.263), followed by lecturers (mean of 3.239). Lowest rating was witnessed on professors (mean of 3.141). The computed f = 0.457 was small and the level of significance (p = 0.808) was larger than α = 0.05 (p > 0.05). This suggested that variations in ASR by current academic staff rank were not significant. Thus, ASR was not determined by rank.

4.4   Academic Qualifications and Retention

The fourth hypothesis on demographic characteristics and ASR was that academic staff qualifications significantly determined the retention of academic staff. To verify whether differences in academic staff qualifications predicted ASR, ANOVA was done and the results presented in Table 5.

Table 5. ANOVA in Retention by Academic Qualifications

Qualification status	Sample size	Sample mean	Sample SD	F	p
Bachelor's degree	30	3.192	0.385	0.528	0.663
Master's degree	154	3.238	0.392		
PhD	111	3.283	0.432		
Others	03	3.167	0.712		

Table 5 results indicate that the mean score on ASR was higher for academic staff with PhD (mean of 3.283), followed by those with master's degree (mean of 3.238), followed by those with bachelor's degree (mean of 3.192) and those in the category of others had the lowest mean on retention (ASR). The computed observed f = 0.528 was low since the probability (p = 0.663) was larger than α = 0.05 (p > 0.05). This meant that variations in ASR by qualifications were insignificant. Thus, academic staff current qualification has low influence on ASR. Consequently, the null hypothesis was accepted that academic staff qualifications insignificantly determine retention of academic staff in Makerere and Kyambogo Universities.

4.5　　Interpersonal Relationships and Retention

To test the relationship between interpersonal relationships and ASR, simple linear regression analysis was conducted. The results are given in Table 6.

Table 6: Interpersonal Relationships and Retention of Academic Staff

Model	Co-efficient	Significance
Interper ASR	-0.003	0.957
Adjusted R^2 = -0.003		
F = 0.003		

The results in Table 6 show that interpersonal relationships explained only 3% of the variation in ASR. The regression model was bad as F = 0.003, p = 0.957, p > 0.05. Therefore, the null hypothesis was accepted.

4.6　　Terms of Work and Retention

Hypothesis three stated that terms of work significantly relate with ASR. To test this hypothesis, regression analysis was conducted. The results are given in Table 7.

Table 7: Terms of Work and Retention

Model	Co-efficient	Significance
Terms of work (TOM) ASR	0.163	0.005
Adjusted R^2 = 0.023		
F = 8.064		

Table 7 results show that terms of work explained 23% of the variation in ASR (Adjusted R^2 = 0.23). This means that 77% of the variation was accounted for by extraneous variables, other factors not considered in the study. The regression model was good as F = 8.064, p = 0.005, p > 0.05. The null hypothesis was rejected in favour of the research hypothesis that terms of work significantly determine retention of academic staff in Makerere and Kyambogo Universities. This suggested that terms of work significantly determined ASR. It also implied further that as terms of work improve, academic staff probability of staying on the job enhances.

4.7　　Work Life Balance and Retention

To test the fourth hypothesis that work life balance significantly relates with retention, a regression was done. Results are given in Table 8.

Table 8: Work Life Balance and Retention

Model	Co-efficient	Significance
Terms of work life balance, ASR	0.318	0.000
Adjusted R^2 = 0.098		
F = 33.214		

Results in Table 8 show that work-life balance explained 98% of the variation in ASR. The regression model was good t = 33.214, p = 0.000 < 0.05. Thus the null hypothesis was rejected in favour of research hypothesis that work life balance significantly determine retention of academic staff in Makerere and Kyambogo Universities. This implies that ASR is highly determined by work-life balance.

5 Discussion, Conclusions and Recommendations

Results obtained from the study are discussed basing on the study findings. The first objective of the study was to establish the extent to which demographic characteristics determine retention of academic staff. Findings of the study showed that gender significantly determine ASR while marital status, current academic rank, qualification and experience did not. Kyndt et al. (2009) supported the study finding that gender was significantly related with employee retention. These findings differed from Ngobeni and Buzuidehont (2011), Koedal and Xiang (2016) & Nawazi et al (2012) who indicated that demographics like age, marital status, experience, qualifications significantly determine ASR. Hence a conclusion that certain demographics significantly determine retention of academic staff while others do not.

Study findings revealed that interpersonal relationships insignificantly determine ASR. This finding was consistently supported by Albagami (2016), Adil and Awais (2016) who established an insignificant relationship between interpersonal relationships and retention possibilities of staff. However, this finding opposed Erasmus, Gobler and Niekerk (2015), Korantwi-Barimah (2017) who indicated that there was a positive significant relationship between interpersonal relationships and retention of staff. It is concluded that interpersonal relationships insignificantly determine retention possibilities of academic staff in Makerere and Kyambogo Universities.

Findings on terms of work (TOW) revealed that TOW significantly determine retention of academic staff in Makerere and Kyambogo Universities. This finding resonates with earlier findings like that of Leip and Stinchcomb (2013) who established that job tenure had a weak relationship with employees' turnover. In tandem with this finding Victoria and Olalekan (2016) established that employees with fewer length of service have greater intention to leave their

universities than those with more years of service. In agreement with the study finding, Matz et al. (2012) revealed that lower perceptions of job safety and security strongly predicted the intent to search for a new job and eventually leaving after one year. In conclusion, TOW significantly determine ASR in Makerere and Kyambogo universities.

Findings on work life balance revealed that work life balance significantly determined ASR in Makerere and Kyambogo Universities. This was in consonance with Maphanga (2014) who established that work life balance significantly impacted on intentions to quit. In line with the study findings, Munro (2015), Olusumbo and Tuyin (2009) revealed that work-family conflict (WLB) significantly related with retention of employees. In conclusion, work life balance significantly determined the retention of academic staff in Makerere and Kyambogo Universities.

It is recommended that the managers of Kyambogo University and Makerere University develop policies that are geared towards providing terms of work and work life balance that favour *both* the universities' and staff's needs. This could be done by consulting the staff during processes of developing the policies.

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Conflict Management Strategies and Administrative Effectiveness among Tertiary Institutions in Sokoto Metropolis

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Abstract. This paper examined conflict management strategies and administrative effectiveness in tertiary institutions in Sokoto metropolis. The study employed a correlational survey research design with questionnaire as the instrument of data collection. The population comprised all the eight tertiary institutions in the area. A sample of 168 lecturers were selected as respondents across four tertiary institutions. Two researcher developed instruments titled "Conflict Management Strategies Questionnaire" (CMSQ) and "Administrative Effectives Scale" (AES), with reliability indices of 0.82 and 0.85 respectively, were used for data collection. Data were analysed using Multiple Regression Analysis. The study established a significant relationship between dialogue, competition, prevention, and communication on one hand and administrative effectiveness on the other hand. It is recommended that tertiary institutions institutionalize dialogue as a conflict management strategy because through dialogue, team members develop skills to think together and to accept differences, thereby avoiding crises and improving performance.

Keywords: Conflict; Performance management; Tertiary institutions.

1   Introduction

People in organisations deal with conflict daily, Educational leaders are not exempted. In the past, educational institutions in Nigeria had few conflicts and controversies. Today, however, conflicts in these institutions are widespread. Therefore, it is reasonable to expect conflict in the administration of tertiary institutions in Sokoto metropolis. Conflicts usually occur between personnel on one hand and the school authorities on the other. Other forms of conflict include interpersonal conflict among staff and their students. Higher levels of conflict

include Academic Staff Union of Universities (ASUU) and the Federal Government of Nigeria and the Nigeria Union of Teacher (NUT) and the State Government. This study was particularly relevant at a time when Academic Staff Union of Universities had to embark on a prolonged strike over non-revitalization of the university education system in Nigeria by the Federal Government.

Conflict has been defined in different ways. The commonest among these definitions holds that conflict is perceived divergence of interest. It is a belief that the current aspirations of the parties in a conflicting situation are incompatible (Pruit & Kim, 2004). In a similar vein, Wallenstein (2007) defined conflict as "a social situation in which a minimum of two actors (parties) strive to acquire at the same moment in time an available set of scarce resources". Conflict could be described as all forms of opposition, disagreement, friction between two or more parties and it manifests in the form of arguments, protest, demonstration, aggression and other destructive behaviours. All these are common occurrences in organisations these days.

Differences in opinions and interest of the individual groups in the tertiary institutions may constitute conflict between staff and management, as well as students and school authority, hence management and personnel in institutions of higher learning sometimes engage themselves in conflict situations which result into strikes, thereby affecting university administration and consequently reducing productivity (Adeyemi & Ademilua, 2012).

In the Nigerian university system, there had been claims of conflicts which had led to gradual but steady disruption of academic activities. Various forms of conflict occurs at varying degrees in universities. Amuseghan (2007), for instance, found that the level of occurrence of student-authority conflicts in the Canadian universities was high, while Oyebade (2000) and Awosusi (2005) reported that the level of occurrence of staff-authority conflicts in Nigeria tertiary institutions was also high. Folutile (2010) reported that there was a visitation panel inaugurated on March, 2009, to investigate the cause of the crisis that actually engulfed the University of Benin, when the university was deeply embroiled in crisis in 2009.

The cost of conflict includes direct cost, production cost, continuity cost and emotional cost (Nwofia, 2015). Also, no meaningful teaching-learning situation can take place in a conflict ridden academic environment. Unfortunately, most administrators in educational institutions are not knowledgeable in conflict management. Coupled with absence of clear procedures for conflict management in most tertiary institutions, this has contributed to the rate of conflicts in colleges and universities.

In Sokoto metropolis, the attitudes of administrators of tertiary institutions have not helped matters. Some of the conflicts centred on their personality and administrative styles. It is with this understanding that this Study undertook to examine the relationship between conflict management strategies and

administrative effectiveness among public tertiary institutions in the area with, with a view to generating some recommendations towards attainment of the organizational goals of the institutions.

Demer (2002) and Adebayo (2007) identified dialogue, mediation, negotiation, reconciliation suppression and the use of force as conflict management strategies in organisations. Dialogue is "the art of thinking together" and is "sustained collective inquiry" into everyday experience and what we take for granted. Dialogue constructs a space for conversation that welcomes participants to invite a multiplicity of voices. It is intimately connected with the co-creation of new realities. Dialogue is meant to develop joint approaches to conflict resolution as well as improve relationships, understanding and trust between individuals or groups in conflict with one another. Prevention strategy is the object of a wide range of policies and initiatives. Its aim is to avoid violent escalation of a dispute. Communication is a method of resolving conflict among tertiary institutions whereby the management ensures that both staff and students are carried along the activities of the institutions (Umoren, 2001; Nwofia, 2015). Negotiation is essentially, the process that takes place within conflict resolution and guides the agreement resulting in the target goal, whether it is peace or better understanding. Within this context, negotiation skills implies ability to dialogue successfully. While mediation could be regarded as the process of providing intervention between conflicting parties to promote reconciliation, settlement or compromise. (Adomi & Anie, 2005; Okotoni & Okotoni, 2003)

Reconciliation is a multifaceted and ongoing process of building the relationships, alliances and social understandings that are necessary to support systemic changes. It is however more complex than just repairing relationships (Freeman, 2014; Shed, 2015). In a simple way, reconciliation is about establishing and maintaining a mutually respectful relationship between peoples. Although, there is a need for the awareness of the past, acknowledgement of the harm that has been inflicted and action to change behaviour.

Babalola (2004) defines effectiveness as the extent to which the goals and objectives of an institution are accomplished in relation to quality and quantity. In a similar vein, administrative effectiveness could be described as the extent to which an institution is able to achieve its institutional set goals.

The following hypotheses were formulated to guide the study:

Ho_1: There is no significant relationship between dialogue strategy and administrative effectiveness among tertiary institutions in Sokoto metropolis.

Ho_2: There is no significant relationship between competition strategy and administrative effectiveness among tertiary institutions in Sokoto metropolis.

Ho_3: There is no significant relationship between prevention strategy and administrative effectiveness among tertiary institutions in Sokoto metropolis

Ho_4: There is no significant relationship between communication strategy and administrative effectiveness among tertiary institutions in Sokoto metropolis

2   Methodology

The study followed a correlational survey research design, carried-out at ex-post facto, with questionnaire as the major instrument of data collection. Four tertiary institutions, namely, Sokoto State University, Shehu Shagari College of Education, Umaru Ali Shinkafi Polytechnic and College of Nursing and Midwifery were randomly selected for the study. Simple random sampling techniques were used to select 168 lecturers (respondents) across the institutions (i.e. 42 lecturers from each of the institutions). The sampled respondents were considered to be representatives of the entire population. The study is a typical questionnaire survey research. It is correlational because it seeks to establish relationships among the variables.

The population for the study comprises of all the academic staff in tertiary institutions, in Sokoto metropolis. There are eight public tertiary institutions in the area. Precisely, 168 questionnaires were administered through four trained research assistants. Only 160 of these questionnaires were found usable, representing a response rate of 95%. The questionnaire, which was developed by the researcher, was tagged the "Conflict Management Strategies Scale (CMSC) and Administrative Effectiveness Scale (AES)". It was developed as a four-point Likert type rating scale, allowing the respondents to indicate whether they "Strongly Agree" (SA) = 4, "Agree" (A) = 3, "Disagree" (D) = 2 or "Strongly Disagree" (SD) = 1 with the statements in the instrument. The instrument was moderated by an expert in the field of educational management and psychology who affirmed its validity. Reliability indexes of 0.8 and 0.85 were established for the two parts of the instrument through a test-retest method at an interval of 3 weeks.

The data collected were analysed using multiple regression analysis. The hypotheses were tested at the .05 level of confidence.

3   Findings

Ho$_1$: There is no significant relationship between Dialogues Strategy and Administrative Effectiveness.

Table 1: Dialogue Strategy and Administrative Effectiveness

Variable	N	Mean	Std. Dev.	r-Cal.	p-Value	Decision
Dialogue strategy	160	10.23	2.676	.545	.000	Reject H0
Administrative Effectiveness	160	18.33	4.864			

From the result in Table 1, Dialogue strategy and Administrative Effectiveness were positively related, $r(158) = .545$, $p = .000$. This indicates significant relationship between Dialogue Strategy and Administrative Effectiveness because the p-value is less than the .05 level of significance. Therefore, Ho_1 which states that there is no significant relationship between Dialogue Strategy and Administrative Effectiveness was rejected.

Ho_2: There is no significant relationship between competition strategy and administrative effectiveness.

Table 2: Competition Strategy and Administrative Effectiveness

Variable	N	Mean	Std. Dev.	r-Cal.	p-Value	Decision
Mediation strategy	160	8.94	2574	.387	.000	Reject H_0
Administrative Effectiveness	160	18.83	4.864			

From the result in Table 2, Competition Strategy and Administrative Effectiveness were positively related and significant $r(158) = 0.387$, $p = .000$. This indicates significant relationship between Competition Strategy and Administrative Effectiveness because the p-value is less than the 0.05 level of significance. Therefore, Ho_2 which states that there is no significant relationship between Competition Strategy and Administrative Effectiveness was rejected.

Ho_3: There is no significant relationship between Prevention Strategy and Administrative Effectiveness.

Table 3: Prevention Strategy and Administrative Effectiveness

Variable	N	Mean	Std. Dev.	r-Cal.	p-Value	Decision
Prevention strategy	160	11.8	3.202	.371	.000	Reject H_0
Administrative Effectiveness	160	18.83	4.864			

From the result in the Table 3, Prevention Strategy and Administrative Effectiveness were positively related and significant, $r(158) = .371$, $p = .000$. This indicates significant relationship between Prevention Strategy and Administrative Effectiveness, because p-value is less than .05 level of significance. Therefore, Ho_3 which states that there is no significant relationship between Prevention Strategy and Administrative Effectiveness was rejected.

Ho_4: There is no significant relationship between Communication Strategy and Administrative Effectiveness.

Table 4: Communication Strategy and Administrative Effectiveness

Variable	N	Mean	Std. Dev.	r-Cal.	p-Value	Decision
Communication strategy	160	9.62	2.376	.327	.000	Reject Ho
Administrative Effectiveness	160	18.83	4.864			

From the result in Table 4, Communication Strategy and Administrative Effectiveness were positively related and significant, $r(158) = 0.327$, $p = .000$. This indicates significant relationship between Communication Strategy and Administrative Effectiveness because the p-value is less than the .05 level of significance. Therefore, Ho$_4$ which states that there is no significant relationship between Communication Strategy and Administrative Effectiveness was rejected.

4   Discussion

Findings from Table 1 indicated that dialogue strategy and administrative effectiveness were positively related and significant. This implies a reasonable degree of association between dialogue as a conflict management strategy and college administrative effectiveness. Based on the result it could be argued that, through dialogue, the team members probably develop skills to think creatively together to understand alternative ways and willingness to accept differences. This finding is in line with that of Aja (2013) that dialogue session offered the team a relative sense of psychological safety. It also corroborates Benson (2016)'s view that without dialogue, individuals and groups can neither exchange ideas effectively, nor develop shared understanding. The study also supports the work of Ogunsanwo (2002) indicating that a "win-win" approach is the most effective conflict management style in order to prevent crises, thereby improving workers performance in an organization.

From the result of Table 2, Competition Strategy and Administrative Effectiveness were significantly related. This indicate a degree of association between competition as a conflict management strategy and administrative effectiveness in our colleges. Competition strategy involves the 'survival of the fittest' and win-lose method, without taking other party into consideration. The study support that of Yusuf (2012), that conflict created by competition will be productive because each participant will work hard to win, thereby enhancing some aspect of organizational performance. In some situations, school organization may stimulate conflict by placing individual employees or groups in competitive situations. Administrators may establish contests, incentive plans or bonuses because each participant will work hard to win thereby improving organisational performance.

From the result of Table 3, Prevention Strategy and Administrative Effectiveness were significantly and positively related. Workplace conflict is a fact of life in any organization, as long as people will compete for jobs, power recognition and security (Adomie and Anie, 2005). Therefore, the task of management is not to suppress or avoid conflicts, but to manage them in order to

enhance and not to detract from organizational performance. The study actually support that of Adebayo (2007) that teachers and manager in various colleges and universities should promote the rule of law, promote human freedom and equity of justice. These values are essential in order to prevent destructive conflict within our school system. A peaceable school expression, and conflict resolution are taught and supported throughout the culture of the school.

From the result of Table 4, Communication Strategy and Administrative Effectiveness were positively related and significant. This necessary implies that there is need for free flow of information in our colleges and universities. Lack of access to information breeds rumours and invariably results into conflict. Adequate communication in turn reduces conflict and maximizes productivity. The study is in line with the submission of Olagunju and Eweniyi (2002), in their study of strategies in conflict resolution among organizational workers. They concluded that both male and female workers had the same positive view of using communication strategy to resolve conflicts. The study was a descriptive research design with 283 workers randomly selected in Ogun State of Nigeria. The view of Akinboye (2002), Fabunmi and Alimba (2010) was equally corroborative, the importance of emphatic communication through active listening in organizational conflict resolution cannot be over-emphasized.

However, with integrative conflict management strategies, such as dialogue and communication, there is often high confidence and trust among organizational members, there exists loyalty to the school organization in the achievement of institutional performance.

The following recommendations were generated from the findings;

1. Managers of tertiary institutions should institutionalize dialogue. They need to explore dialogue strategy as a foremost step among others in managing conflict. Through dialogue, team members develop skills to accept differences, thereby preventing crises and improve performance.

2. Managers of tertiary institutions should improve their communication skills and provide communication channels. Administrators should ensure free flow of information in our Colleges and Universities. They should be aware that lack of access to information breeds rumours and invariably results into crises.

3. Educational managers in tertiary institutions should try as much as possible to prevent frequent occurrence of conflict within the organization. They should note that a peaceable school results and they must ensure that values and skills of cooperation, tolerance are supported in the culture of the school.

4. Managers should try as much as possible to place individual employees or groups in a competitive stimuli to spark competition. Thereby making each participant to voluntary work hard to win. Administrators may establish contests, incentive plans or bonus.

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Instructional Leadership and Lecturers' Job Performance in Public Universities in Uganda

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Abstract. Uganda's public universities are still grappling with the challenge of lecturers' job underperformance. While a growing body of research has identified various factors to explain this underperformance, it has not paid much attention to the analysis of whether instructional leadership is among the causes and if it can provide a solution to this challenge. Therefore, this study provides this analysis. The study employed a cross-sectional correlational survey involving collection of questionnaire data from 341 lecturers and 35 heads of departments (instructional leaders) selected from Makerere University and Kyambogo University using stratified sampling. The data was analysed using descriptive, data transformation, and linear regression analysis. Findings established instructional leadership as a positive and significant predictor of lecturers' job performance. These findings suggest that improving instructional leadership by availing lecturers with adequate instructional resources and supervising and monitoring them effectively can improve their job performance. Accordingly, the study recommends to the management of Uganda's public universities to stock sufficient teaching resources and to ensure that their heads of departments play their supervisory and monitoring roles effectively.

Keywords: Instructional management; Performance management; Reform.

1   Introduction

Uganda liberalised university education in the early 1990s with the aim of widening access to it and maximising attainment of its purpose of preparing the highest level of human capital the country critically needed to foster innovative and sustainable national development (Sanga, 2017). However, realising this purpose does not just happen. Research has shown that it is determined by various factors at the heart of which is lecturers' job performance (Wong & Yuan-Li, 2019). Lecturers' job performance refers to the extent to which lecturers complete the teaching, research and community service tasks, responsibilities

and activities intended to facilitate student learning and achievement of desired educational outcomes (Alfagira *et al.*, 2017; Onoyase, 2017; Victor & Babatunde, 2014; Naseer, 2010). The extent to which lecturers complete their jobs plays a critical role in enabling a university to achieve its purpose. Lecturers who perform their jobs as expected enable their university to achieve its purpose as desired, but the reverse occurs when there is lecturer job underperformance (Hassel & Ridout, 2018). The latter is unfortunately the situation facing public universities in Uganda (Sanga, 2017).

Previous research has shown that the majority of the lecturers in Ugandan public universities are underperforming their jobs. Specifically, the study of Nassuna (2013) indicates that over 80% of Makerere university lecturers who participated as respondents revealed that they did not teach all the lectures assigned to them and 70% were not regularly available to supervise research students allocated to them. The study of Kakulu (2016) revealed that over 78% of Kyambogo University lecturers who participated as respondents failed to teach all the lectures assigned to them, with 67% of them being inadequately prepared prior to delivering most of the lectures to students and 56% delaying to evaluate students, thereby causing the students to miss graduating in time, especially at the postgraduate level. According to Ddungu (2017), most of the lecturers assigned to supervise research students do not guide these students as scheduled even when the students make efforts to fix appointments prior to meeting them. The lecturers frequently call off the appointments at the last minute and postpone the supervision to another unfixed date, citing being caught up in other research projects. Furthermore, the level of most of the lecturers' participation in community service is far below expectation (Ddungu, 2018a), and their involvement in research and publication leaves a lot to be desired (Ddungu, 2018b). Similar findings appear the study Wakida, Maling and Obua (2018) conducted at Mbarara University of Science and Technology. The preceding studies indicate that the majority of lecturers in most of the public universities in Uganda are underperforming their jobs. This underperformance however, does not take place in a vacuum but under the influence of various factors.

Different studies have been conducted to establish these factors. Some of the studies have identified personal factors such as job dissatisfaction and work stress, among others (Ssesanga & Garrett, 2005). Other studies have identified university-based factors such as institutional management and financing (Liang *et al.*, 2016), observed governance policies, academic staff remuneration, poor work conditions (Alfagira *et al.*, 2017), administrative leadership (Kezar & Holcombe, 2017), and most of all, instructional leadership (Ersozlu & Saklan, 2016; Lineburg, 2010), among others. However, those that have identified instructional leadership are generally few at the university level and entirely lacking in the specific context of Uganda's public universities. Consequently, it

is not clear whether and how instructional leadership explains the job underperformance of lecturers in these universities.

The few empirical studies that have analysed instructional leadership include Hallinger and Murphy (1985) and Hallinger (2003) among others. These studies indicate that as a concept, instructional leadership dates back to the 1980s when researchers developed more interest in analysing the role it plays in facilitating desired student learning and educational outcomes (Hallinger, 2003). This concept has since been defined by different scholars with some such as Hallinger and Murphy (1985) delineating it as a role that a leader in an educational institution plays in form of defining the institution's mission, managing its instructional programme, and promoting a positive teaching climate. Such a leader differs according to the educational institution. In primary and secondary schools, this leader is the head teacher or principal, but in a university, officials who play the instructional leadership role are the heads of departments, since these are the direct supervisors of the lecturers (Ersozlu & Saklan, 2016). The purpose of this paper is to investigate how each of dimensions is conducted in public universities in Uganda and how it accounts for lecturers' job performance. Consequently, the specific objectives of the paper are to (a) establish the current state of lecturers' job performance and analyse how the way their heads of departments (b) define their universities' missions, (c) manage instructional programmes and (d) promote a supportive teaching-climate influences this job performance.

2   Related Literature

2.1   Theoretical Review

This study was grounded in Burns' (1978) transformational leadership theory viewed from the perspective of Hallinger and Murphy's (1985) model of instructional leadership. This theory advances a view that exemplary leadership is not that which focuses on fostering mere follower-compliance through motivation involving giving or withholding rewards; it is that which engages in introducing and promoting changes that are mutually beneficial to the leader, the led and their organisation, community or nation as a whole (Burkus, 2010). Within the context of Hallinger and Murphy's (1985) model, this view implies that instructional leadership is not concerned with giving or withholding rewards to ensure lecturer compliance; it is about adopting and encouraging instructional changes that benefit the instructional leader, lecturers, their university and students.

The transformational leadership theory asserts that for one (such as an instructional leader) to be considered effective, one has to demonstrate the

following: individual consideration, intellectual stimulation, inspirational motivation, and idealised influence (McCleskey, 2014). In the context of Hallinger and Murphy's (1985) model, all these dimensions work simultaneously to enable the instructional leader to define and communicate the university's mission, manage its instructional programme and promote a supportive teaching performance in a manner that convinces and inspires lecturers to perform their jobs effectively (Hallinger, 2003). By individualised consideration, this theory refers to the degree to which a leader (or instructional leader) attends to each follower's (or lecturer's) needs as an empathetic mentor, listening to the follower's concerns and grievances, giving the follower support, keeping open communication with and giving each follower positive challenges (Yu, 2013). Individualised consideration involves a leader respecting followers, celebrating their contributions, and creating opportunities for them to express their aspiration for self-development and intrinsic motivation to perform assigned work (McCrimmon, 2008). Intellectual stimulation is the degree to which a leader challenges assumptions, solicits followers' ideas when taking risks, encourages creativity in followers and nurtures and develops followers to think independently (McCrimmon, 2008). Learning is valued and unexpected situations are regarded as opportunities to learn; a leader allows followers to ask questions, think deeply about things and figure out better ways of executing their tasks (Nusair *et al.*, 2012).

Inspirational motivation refers to the degree to which a leader (instructional leader) articulates a vision and mission (such as a university mission) in an appealing, inspiring, precise, understandable, and engaging manner to followers (Chen, 2014, 2017). It involves a leader setting clear goals (such as curriculum goals) and communicating optimism about them, challenging followers (teachers) with high performance standards, providing meaning for the task at hand, and encouraging them to believe in their abilities (Barth-Farkas & Vera, 2014). The leader inspires in followers not only a strong sense of meaning and purpose of what they do but also the energy that drives them forward (Mbithi *et al.*, 2016). The leader communicates the mission in an understandable, precise, powerful and engaging manner that persuades followers' willingness to invest more effort in their tasks, and to be optimistic about the future and to have pride in they achieve for their organisations and themselves as well. Idealised influence is described as a leader's behaviour that inspires followers because it is exemplary and ethical, instils pride in followers and makes them look to him or her as a source of admiration, respect and trust, as a role model to emulate and with whom they want to identify (Ndiritu, 2012). Hughes (2014) summarised idealised influence as the followers' personification of their leader's values, beliefs and ways of doing work that contributes to the pursued mission and vision.

The transformational leadership theory has however, come under attack. Critics argue that its multifaceted nature tends to produce inconsistent results (Day & Harrison, 2007). While some studies have established that it is a significant predictor of positive results, others have come up with insignificant findings. Its rationale is also sometimes abused by leaders who pretend to be transformational when they are purely transactional in the actual sense. Despite these criticisms, transformational leadership theory is recognised as valuable and has been widely used in research about how leaders influence the performance of their subordinates (Sadeghi & Pihie, 2013). It is for this reason that this theory was selected to guide this study. Its selection was particularly based on extant scholarship that had revealed that instructional leaders who exercise transformational leadership through each of its dimensions inspire teachers to perform to or beyond expectation (Money, 2017).

Such a connection has in fact been validated for almost 30 years since the theory was first proposed by Burns (1978) based on empirical research that established a strong and positive correlation between transformational leadership and performance outcomes at the individual, group, and organizational levels. Hallinger (2003) applied this theory to Hallinger and Murphy's (1985) model of instructional leadership and found out that school leaders who exercise instructional leadership through the dimensions proposed by this theory are able to effectively define their schools' missions, manage the schools' instructional programmes, and promote a positive teaching-climate not exclusively but inclusively. In so doing, they motivate teachers to perform their jobs, thereby contributing optimally to the achievement of the desired learning outcomes. These findings are however, yet to be validated in the specific context of public universities in Uganda. It is for this reason that this study was conducted following the conceptual framework in Figure 1.
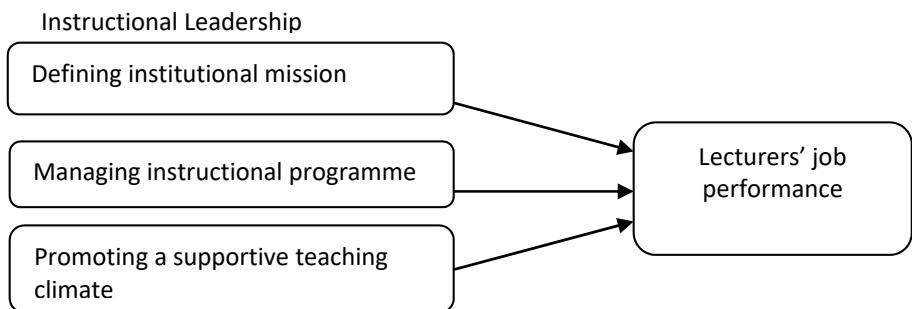
Figure 1: Conceptual framework
Source: Adapted from Hallinger and Murphy (1985) and Hallinger (2003).

The conceptual model in Figure 1 assumes that lecturers' job performance is determined by how instructional leadership is exercised. Accordingly, instructional leadership was considered the independent variable and lecturers' job performance as the dependent variable. As the model indicates, instructional leadership was measured in terms of its dimensions identified by Hallinger and Murphy (1985), including defining institutional mission, managing the instructional programme and promoting a school climate. Lecturers' job performance was measured in terms of teaching, research and community service.

2.2   Lecturers' Job Performance

Lecturers' job performance has attracted different studies (Alfagira *et al.*, 2017; Onoyase, 2017; McCarthy, 2015; Victor & Babatunde, 2014). Specifically, Onoyase (2017) defined lecturers' job performance using the outcome-dimension, thereby describing it as the extent to which academic staff members achieve educational outcomes expected of them. While this definition is valid, it was not applied in this study because of the difficulties associated with measuring educational outcomes. Taking the process dimension adopted in this present study, Victor and Babatunde (2014) described lecturers' job performance as the degree to which academic staff members complete their teaching responsibilities, which include lecture planning, research, and community service. Although these researchers' approach is used in this present study, they related the process dimensions of lecturers' job performance to motivation but not instructional leadership. A similar approach was applied by Alfagira *et al.* (2017) but these researchers also related this performance to motivation. According to McCarthy (2015), lecture planning focuses on using the content outline of the assigned course unit(s) and the learning objectives it seeks to achieve to search for and select relevant subject matter for a particular lecture, segmenting this subject matter into specific content sections and subsections, and determining which subject matter to cover within the allocated time. This author continued to show that lesson planning involves determining relevant teaching/learning materials and a pedagogical method to use in order to effectively deliver the subject matter in a manner that cultivates and maintains student attention, interest, and participation necessary to realizing set learning objectives. McCarthy (2015) was however, descriptive as he did not go beyond explaining what lesson planning involves.

Furthermore, lecturers' job performance includes delivering lectures to students as scheduled by the timetable, and evaluating the students by giving and marking coursework, setting tests and examinations, invigilating and marking them, and submitting their results/marks for final assessment, grading and accrediting (Igbojekwe *et al.*, 2015). This performance further involves

supervising research students by creating adequate time for guiding them through their research proposals, projects and dissertations (Ddungu, 2017). The performance further involves conducting research and publishing findings in reputable academic journals, or using the findings to write textbooks, textbook chapters and articles in media outlets and documentaries (Kakulu, 2016). It further involves lecturers participating in community service by carrying out activities such as public scholarship, participatory research, community partnership, public information networks, and civil literacy scholarship (Ddungu, 2018a; Nhamo, 2013). Generally, while existing literature describes what lecturers' job performance entails, it does not relate it to instructional leadership within the context of public universities in Uganda. However, the description of this performance it provides provided the indicators that were used to measure it in this study.

2.3   Mission and Lecturers' Job Performance

Different scholars have explained how the way an organisation's mission is defined influences how workers perform their jobs. Specifically, writing about what motivates people, Pink (2009) noted that the forces that drive how people perform at the workplace, but their performance increases when what motivates them is a clearly defined purpose or mission. The most productive, satisfied, deeply motivated and high performing people are those that connect their desires to a mission larger than themselves. This observation suggests that a clearly defined mission drives people to perform their jobs optimally. The observation is however, generalised to all people, but needs to be validated for specific categories of employees such as lecturers in public universities in Uganda.

In addition, Hallinger (2003) analysed how defining a school mission influences the role of a teacher in facilitating desired learning. This researcher observed that defining a school mission involves stating a clear purpose for a school, translating the mission into clear goals, setting performance standards necessary to achieve the goals and communicating the standards to the teachers articulately. Hallinger found out that an instructional leader who defines a clear school purpose, translates the purpose into clear school goals based on the national curriculum, sets clear performance standards by which the goals should be pursued, and communicates the standards inspires teachers to perform their jobs as desired. This is because the set performance standards motivate teachers to perform their jobs in a way that ensures that the standards are met. Hallinger's observations suggest that an instructional leader who clearly spells out an educational mission, translates the mission into clear goals and performance standards, and articulates these standards clearly encourages teachers to perform their jobs effectively. The reverse is also true. These observations were however made within the context of elementary schools in order to develop conceptual

model linking instructional leadership to educational outcomes. While the model has been tested in various school settings such as those in Australia (Hallinger, 2007), not much effort has been made to test it within the context of Uganda's public universities.

Besides Hallinger, Adams (2016) found out that the way a school mission is defined influences how teachers perform their jobs in terms of how they commit their time, efforts and energies to the worthy cause of educating students. These findings however contrasted those already presented above; for they revealed no significant relationship between defining an educational mission and teachers' job performance. Teachers felt the same job stress and registered almost the same level of effectiveness in teaching in spite of the changes introduced in the definition of their school's mission. Adams (2016) was however, conducted in a primary school in Minnesota, United States. To recap, existing literature shows that how an instructional leader defines an educational mission influences the way lecturers perform their jobs. However, this literature is deficient about the nature of this influence within the context of public universities in Uganda. This is void filled in this study.

2.4 Management of Instructional Programme and Job Performance

The way an instructional leader manages instructional programme and how it influences teachers' job performance has attracted a number of researchers some of whom are Hallinger (2003) and together with his earlier colleague Hallinger and Murphy (1985). These researchers analysed the managing of instructional programme as a role an instructional leader plays in form of determining academic programmes and their goals in line with the university curriculum; mobilising resources needed to implement the programmes; directing, supervising and monitoring the programmes' implementation; and evaluating lecturers regularly to establish progress in realising desired student learning and talent growth (Pearce, 2017). The fact that these roles are executed to ensure realisation of desired learning outcomes implies that they influence how lecturers perform their jobs (Hompashe, 2018). This is the influence analysed in this study for the public universities in Uganda.

In addition, Lyonga (2018) examined the influence of supervision on teachers' work performance. The findings indicate that instructional supervision has a positive influence on different aspects of teachers' job performance. In particular, instructional leaders positively influence teachers' job performance when they regularly engage in classroom visits and observation of teaching, examination of teaching and learning methods used by teachers during supervision, and regular checking of teachers' schemes of work, lesson plans, correction of teachers' lesson plans, and holding meetings with teachers individually and as groups to provide guidance on how to improve teaching and

learning activities. A similar conclusion was reached by Yousaf *et al.* (2018). However, while Lyonga's study was conducted in primary schools in Konye Sub-Division in Cameroon that of Yousaf *et al.* (2018) was conducted in the same schools in Pakistan. Accordingly, the findings of these studies need to be validated in Uganda, particularly in public universities were lecturers do not perform their jobs as expected.

Furthermore, Ndungu *et al.* (2015) conducted a study to examine the influence of teacher monitoring and evaluation by principals on effective teaching and learning in public secondary schools in Githunguri District. They analysed monitoring as a role by which an instructional leader engages in continuous and systematic checking and observing of teachers as they carry out assigned responsibilities. They examined evaluation as a role an instructional leader does by assessing, judging, appraising and determining how teachers have done their responsibilities and providing feedback about the strengths, weaknesses and solutions needed to correct the weaknesses in order to improve where necessary. They further noted that this evaluation involves comparing what teachers are expected to do (performance standards) to what they have actually done in order to establish the difference and how to close it. Findings revealed that instructional leaders who assessed teachers' preparation of schemes of work and lesson plans, classroom teaching through discussing with students about the taught content and how it is imparted, and teachers' involvement in fostering desired student discipline and career guidance enabled their teachers to significantly improve in each of these areas of their job performance. These scholars however, focused on secondary schools, not public universities.

Laska (2016) examined teacher monitoring and evaluating roles a school principal plays through the process of observation in the classroom and their influence on the performance of teachers. The findings obtained from the examination revealed that school principals who carried out these roles by engaging in planning for teacher observation in classroom, actual observation, and evaluating the teachers and providing feedback after observation enhanced teachers' job performance. Indeed, the instructional leaders helped improve delivery of more updated lesson content using the most appropriate pedagogical techniques. They also made teachers' classroom teaching more interactive, and evaluation of student attentiveness and learning more focused. Laska's (2016) study was however, conducted in primary schools, thereby leaving a question as to whether its findings are valid in a secondary school context pending an empirical answer. Generally, literature suggests that the way an instructional leader manages an instructional programme influences teachers' job performance. The literature is however, lacking as far as the nature of this influence in public universities in Uganda is concerned. This study is needed to address to this lack.

2.5   Teaching Climate and Lecturers' Job Performance

Different scholars have examined how promoting a supportive teaching-climate by a school principal influences teachers' job performance. Among these scholars are Hallinger (2003, 2007) and Hallinger and Murphy (1985) who pointed out that promoting a positive teaching-climate involves a school principal protecting instructional time, promoting professional development, maintaining high visibility, providing incentives for teaching, and providing incentives for learning. These scholars asserted that a school principal who engages in these roles creates a school environment in which teaching and learning take place in conducive and facilitative atmosphere that translates into optimising learning and educational outcomes.

Dhuey and Smith (2014) are other researchers who observed that protecting instructional time involves an instructional leader ensuring that teachers teach all the lessons assigned to them, are available at school to attend to students' non-classroom academic and non-academic needs such research supervision. According to Laska (2016), promoting professional development involves instructional leaders giving teachers professional guidance and creating opportunities for them to pursue career development. Providing teachers with incentives for teaching involves an instructional leader giving rewards for outstanding teaching reflected through student achievement (Kipsangut, 2012), and attending to their grievances (Ndungu, 2015). Giving students incentives for learning involves an instructional leader providing necessary learning facilities such as necessary library services, laboratory facilities, recreation facilities, and rewards for outstanding academic and non-academic performance (Hirshleifer, 2016). Promoting a supportive teaching-climate also involves an instructional leader giving students opportunities to express their concerns and grievances in open student forums or discussions, and following up to check whether the grievances are addressed either by the teachers or the top administration (Ndungu, 2015). It is noted that while each of the cited studies explained how the instructional leader promotes a positive teaching climate, they did not delve into how the created climate influences teachers' job performance. This is the gap that this study filled.

Generally, extant scholarship explains how an instructional leader promotes a supportive teaching climate, with a few studies indicating how the promoted climate influences teachers' job performance. However, all the studies were conducted outside Uganda, and mostly in primary or secondary schools. This suggests that extant scholarship does not reflect how the instructional leaders in Uganda promote a supportive teaching-climate and how what they do influences teachers' job performance. This study was therefore needed to address this gap within the context of Uganda's public universities.

3   Research Methods

This study employed a cross-sectional correlational research design, since its purpose was to examine the nature of the relationship between instructional leadership and lecturers' job performance. This research design facilitated the analysis of this relationship using first hand quantitative data collected in a short time using questionnaires administered to a relatively large sample (Creswell & Creswell, 2018). The study population consisted of lecturers of two Ugandan public universities, which included Makerere University and Kyambogo University. These two universities were considered because they were the largest public universities in Uganda both in terms of number of departments, academic staff and students. Specifically, 70% of the 8096 academic staff members in public universities in Uganda were in these two universities (National Council for Higher Education, 2018). They were therefore largely representative of all the public universities in Uganda. The expected sample size of the study was determined using Slovene's formula below:

$$n = \left[\frac{N}{1 + Ne^2} \right]$$

Where n was the sample size to compute, N the population size and e the margin of error allowed statistically when determining a representative sample size. The sample was selected at the 95% level of confidence. Substituting N = 70% of 9096 ≈ 6367 and 5% for e, n in the formula above was 376. This sample was proportionally selected from the two universities. Makerere University had a total of 3976 lecturers and Kyambogo University had 2391 lecturers. Therefore, lecturers selected from Makerere university were (3976 ÷ 6367) × 376 = 235 and those selected from Kyambogo University were (2391 ÷ 6367) × 376 = 141. These lecturers were selected using stratified sampling, a probability sampling technique that involves selecting respondents from different categories based on a criterion that each category is needed to provide a deeper understanding of a phenomenon under investigation (Creswell & Creswell, 2018). This sampling technique helped stratify the academic staff members into heads of departments and lecturers. Heads of departments were selected as instructional leaders, since in a university setting they are the instructional supervisors over the lecturers.

   Data was collected using a self-administered structured questionnaire, since the lecturers were literate enough to read the questions and write their responses. The questionnaire had close-ended items that measured the variables of the study using the Likert scale of responses running from Strongly Disagree (SD = 1) through Disagree (D = 2), Somewhat Agree (S = 3) and Agree (A = 4) to Strongly Agree (SA = 5). The questionnaire's Content Validity Index was 0.878 and its Cronbach Alpha coefficient was 0.846. These indices meant that the

questionnaire was highly valid and reliable. The questionnaire was administered after seeking each lecturer's consent and cooperation by explaining the purpose of the study while underscoring the fact that the study was purely academic. The data was analysed using descriptive, data transformation and linear regression techniques supported by the SPSS (Version 22).

4 Findings

The first objective of the study was to establish the current state of lecturers' job performance. To achieve this objective, the selected respondents were asked to use the Likert scale of responses explained above to assess how they performed the various indicators of their job performance as lecturers. Respondents who disagreed and those who strongly disagreed to the indicators were both construed to have revealed that poorly performed their jobs. Those who somewhat agreed and those who agreed were both interpreted to have shown that they performed their jobs but below expectation. Those who strongly agreed were construed to have revealed that they performed their jobs as expected. The findings obtained from descriptive analysis of the assessment appear in Table 1.

Table 1: Mean Scores on Job Performance

		Min	Max	Lecturers (N = 341)	HODs (N = 35)	Total
Teaching	I do prior planning for each lecture I deliver to students.	1	5	3.98	3.97	3.98
	I ensure that each lecture's objectives are achieved.	1	5	3.94	4.19	4.07
	Before teaching any lecture, I update its subject matter.	1	5	3.96	4.02	3.99
	I teach all the lectures allocated to me in every semester.	1	5	3.86	3.64	3.75
	I give all coursework students should to do in a semester.	1	5	3.89	3.82	3.86
	I set exams for students every end of semester.	1	5	3.99	4.26	4.13
	I invigilate the exams I administer to students.	1	5	3.97	3.79	3.88
	I mark all the coursework I give to students in time.	1	5	3.89	3.58	3.74
	I mark the exams I administer to students in time.	1	5	3.98	3.51	3.75
	I submit students' coursework marks for grading in time.	1	5	3.89	3.56	3.73
	I submit students' examination marks for grading in time.	1	5	3.87	3.54	3.71
	I supervise research students allocated to me as scheduled.	1	5	3.85	3.58	3.72
	General assessment			3.92	3.77	3.86
Research	I am content with the research have conducted so far.	1	5	2.27	3.55	2.91
	I am satisfied with the articles I have published	1	5	1.95	3.61	2.78
	I am content with the chapters I have written in textbooks.	1	5	1.89	3.54	2.72
	I am happy with the number of textbooks I have authored.	1	5	1.96	3.52	2.74
	I am satisfied with the papers I have presented at conferences	1	5	1.91	3.68	2.79
	General assessment			1.99	3.58	2.79
Community service	I am involved in projects in which I share my expertise with community actors	1	5	2.21	2.37	2.29

I negotiate with companies to provide internship to my students	1	5	1.55	1.68	1.62
I have developed applications to solve societal problems	1	5	1.59	1.79	1.69
I participate in debates on solutions to issues of public interest	1	5	1.86	1.66	1.76
I conduct research in which the community is beneficially included	1	5	1.71	1.81	1.76
I collaborate with community groups in mutually beneficial projects.	1	5	1.57	1.64	1.61
I communicate with the general public about issues of public interest.	1	5	2.26	2.29	2.28
General assessment			1.82	1.89	1.86
Overall			2.58	3.08	3.84

The minimum and maximum values in Table 1 indicate that there were respondents who strongly disagreed (min = 1) to all the indicators of their job performance and those who strongly agreed (max = 5). This suggests that there were lecturers who poorly performed and those performed their jobs as expected. The mean values however, were either close to '4' or close to '2'. This reveals that on average, lecturers' job performance varied between poor and below expectation. In particular, the mean values corresponding to the indicators of teaching were all close to '4', suggesting that the lecturers performed below this dimension of their job below expectation. The mean values corresponding to research were close to '2' for lecturers and close to '4' for heads of departments. This suggests that while lecturers poorly performed the research dimension, the heads of departments performed it below expectation. With respect to community service, all the mean values were close to '2', suggesting that community service was poorly performed. The mean values corresponding to the 'overall' assessment of lecturers' job performance as a whole were all close to '3'. This reveals that in general, the lecturers who participated in the study underperformed their jobs on average.

The second objective of the paper was to analyse how the way heads of departments defined their universities' missions influenced lecturers' job performance. Before analysing this influence, effort was made to ask respondents to assess how the heads of departments defined their universities' missions. Descriptive findings obtained from the assessment are summarized in Table 2.

Table 2: Mean Scores on Departmental Mission

			Lecturers (N = 341)	HODs (N = 35)	Total
The department has clearly understandable statement of the mission the pursued by the university.	1	5	3.55	3.78	3.67
The department has its own goals clearly derived from the mission of the university.	1	5	3.59	3.98	3.79
The goals of the department are inspiringly communicated to each lecturer in the department.	1	5	3.51	3.99	3.75
The goals of the department are revised according to changes in the university's mission.	1	5	2.69	3.54	3.12
The performance standards each lecturer should meet within the scheduled time period are engagingly communicated to him/her.	1	5	2.87	3.56	3.22
Performance standards of each lecturer are convincingly revised to align them with any changes made in the university's mission.	1	5	3.45	3.62	3.54
General assessment			3.28	3.75	3.52

The findings in Table 2 indicate that there were respondents who showed that their heads of departments did not define the universities' missions (min = 1) and those who indicated that these missions were clearly defined (max = 5). The mean values were either close to '3' or close to '4'. This suggests that on average, respondents somewhat agreed or agreed, thereby showing that the heads of departments defined the universities' missions, but below lecturers' expectation.

The responses in Table 1 and those in Table 2 were subjected to data transformation using the arithmetic technique provided by the SPPS program to build global variables that were named 'Lecturers' job performance' and 'Mission definition', respectively. Thereafter, linear regression was carried out to establish how Mission definition predicted (influenced) lecturers' job performance. Findings are presented in Table 3.

Table 3: Prediction of lecturers; job performance by mission definition

Predictors	B	Std. Error	Beta	t	Sig.	R	R^2	Adjusted R^2	F	Sig.
(Constant)	1.688	.825		2.044	.080	.686	.470	.394	6.20	.041
Mission Definition	.445	.179	.686	2.492	.041					

The statistics in Table 3 show that at the .05 level of significance, mission definition predicted the lecturers' job performance by a significant 39.4% (Adjusted R^2 = .394, F = 6.209, Sig. = .041 < .05). The corresponding Beta, R and t-values were all positive and significant (Beta = R= .686, t = 2.492, Sig. = .041). This implies that the heads of departments' definition of their universities' missions and lecturers' job performance varied in the same direction. Therefore, a positive change in the way the heads of department define their universities' mission results into a significant improvement in lecturers' job performance.

The third objective of the paper was to analyse how the way their heads of departments managed instructional programmes influenced lecturers' job performance. This objective was met using the same approach applied to achieve the previous objective. The descriptive findings obtained from respondents' assessment of how the heads of departments managed instructional programmes are shown in Table 4.

Table 4: Assessment of instructional management by heads of departments

	Min	Max	Lecturers (N = 341)	HODs (N = 35)	Total
The department head plays a leading role in deciding which academic programmes should be offered in the department.	1	5	3.58	4.18	3.88
The department head encourages only any academic programmes that facilitate realisation of the university's curriculum goals.	1	5	4.19	4.11	4.15
All lecturers in the department are supervised by inspiring them through checking and improving the content of lectures they teach.	1	5	4.01	4.44	4.23
Department head monitors lecturers by checking on how they lecture so he/she can pedagogically guide them to improve where necessary.	1	5	3.69	4.14	3.92
The department head ensures that every lecturer updates the content they deliver to students.	1	5	2.22	3.55	2.89
The department head evaluates lecturers regularly to establish their progress in doing the work expected of them.	1	5	3.87	3.88	3.87
The department head holds appraisal meetings with each lecturer to discuss their performance (strengths, weaknesses and solutions).	1	5	3.65	3.87	3.76
General assessment			3.60	4.02	3.81

Results in Table 4 show that there were respondents who showed that their heads of departments did not manage instructional programmes (min = 1) and those who indicated that the heads managed the programmes to their expectation (max = 5). Most of the mean values were close to '4', suggesting that on average, respondents agreed and therefore showed that the heads of departments managed instructional programmes below lecturers' expectation. The findings obtained from linear regression conducted to establish how managing instructional programme predicted (influenced) lecturers' job performance are summarized in Table 5.

Table 5: Instructional Programme Management and Lecturers' Job Performance

Predictors	B	Std. Error	Beta	t	Sig.	R	R^2	Adjusted R^2	F	Sig.
(Constant)	1.436	.441		3.254	.041	.895	.802	.773	28.267	.001
Instructional programme management	.627	.118	.895	5.317	.001					

The statistics in Table 5 indicate that at the .05 level of significance, instructional programme management by heads of department predicted the lecturers' job performance by a significant 77.3% (Adjusted R^2 = .773, F = 28.267, Sig. = .001 < .05). The corresponding Beta, R and t-values were all positive and significant (Beta = R= .895, t = 5.317, Sig. = .001). This reveals that the management of instructional programmes by the heads of departments and lecturers' job performance varied in the same direction. Therefore, a positive change in the way the heads of department manage instructional programmes translates into a significant improvement in lecturers' job performance.

The fourth and last objective of the paper was to analyse how the way their heads of departments promoted a supportive teaching-climate influences this job performance. Similar methods were used to realise this objective. Descriptive findings obtained from respondents' assessment of how a supportive teaching-learning climate was promoted are depicted in Table 6.

Table 6: Assessment of promoting a supportive teaching-climate

	Min	Max	Lecturers (N = 341)	HODs (N = 35)	Total
The university has all the materials I need to lecture to my best.	1	5	1.58	1.18	1.38
The university has all the equipment I need to lecture to my best.	1	5	2.19	2.11	2.15
The essential materials student need to learn optimally are available	1	5	2.01	1.40	1.71
The lecture rooms are spacious and ventilated enough to support effective teaching.	1	5	2.19	1.13	1.66
My immediate supervisor ensures that no working time is wasted.	1	5	1.22	1.52	1.37
The university provides opportunities lecturers need to pursue desired professional development	1	5	1.87	1.81	1.84
My immediate instructional supervisor is always around to monitor what lecturers do.	1	5	1.87	1.88	1.88
Lecturers who teach as expected are rewarded	1	5	1.44	1.15	1.30
I always available at the appointed time to supervise research students allocated to me.	1	5	1.43	2.25	1.84
I am always available to attend to students' non-research learning needs.	1	5	1.22	2.15	1.67
students are given chance to freely express their learning concerns	1	5	1.33	1.45	1.39
Students who perform outstandingly are rewarded	1	5	1.65	1.87	1.76
General assessment			1.67	1.66	1.66

From Table 6, there were respondents who strongly disagreed that a supportive teaching-climate was promoted in their universities (min = 1) and those who strongly agreed to the contrary (max = 5). Most of the mean values were however close to '2', suggesting that on average, respondents disagreed, thereby showing that a supportive teaching-climate was not promoted. Results obtained from linear regression conducted to establish how promoting a supportive teaching-climate predicted lecturers' job performance are shown in Table 7.

Table 7: Supportive Teaching-Climate and Lecturers' Job Performance

Predictors	B	Std. Error	Beta	t	Sig.	R	R^2	Adjusted R^2	F	Sig.
(Constant)	1.600	.497		3.218	.015	.856	.733	.695	19.250	.00
Promotion of supportive teaching climate	.600	.137	.856	4.387	.003					

Results in Table 7 show that at the .05 level of significance, promotion of supportive teaching-climate predicted the lecturers' job performance by a significant 69.5% (Adjusted R^2 = .695, F = 19.250, Sig. = .003 < .05). The corresponding Beta, R and t-values were all positive but significant (Beta = R= .856, t = 4.387, Sig. = .003). These statistics reveal that promoting a supportive teaching-climate and lecturers' job performance varied in the same direction. Therefore, a positive change in promoting a supportive teaching-climate translates into a significant improvement in lecturers' job performance.

5   Discussion, Conclusion and Recommendations

Findings suggest that on average, Uganda's public universities are still grappling with lecturers' job underperformance (Table 1). This underperformance was reported in all the dimensions of the lecturers' job, but it was more critical in the conducting of research and participation in community service than in the teaching dimension (Table 1). The findings therefore, support the observations made in the studies of Nassuna (2013), Kakulu (2016), Ddungu (2017, 2018a, 2018b) and Wakida *et al.* (2018). Each of these studies revealed that while the job performance of lecturers was below expectation in the teaching dimension, underperformance was worse in research and community service. The findings suggest that the lecturers are not effectively contributing to the university's realisation of the purpose of preparing the highest level of human capital Uganda needs to foster her innovative and sustainable national development as desired.

Therefore, solutions by which lecturers' job underperformance can be dealt with are urgently needed.

Fortunately, the findings in Tables 3, 5 and 7 indicate that how the three dimensions of instructional leadership were conducted in the selected universities predicted the lecturers' job performance in a significantly positive manner. Not only do these findings concur with the model proposed by Hallinger and Murphy (1985) as well as the studies of Hallinger (2003), Ndungu (2015), Adams (2016), Lyonga (2018), and Yousaf *et al.* (2018) each of which showed that at least one of the three dimensions of instructional leadership relates positively with teachers' job performance. More importantly, the findings also suggest that any positive change in each of these dimensions leads to a significant improvement in the lecturers' job performance. In other words, public universities in Uganda can significantly solve the lecturers' job underperformance facing them by focusing on ameliorating their instructional leadership.

Such focus is particularly needed in the light of the findings in Tables 2, 4 and 6. Each of these tables indicates that the manner in which each dimension of instructional leadership was carried out at the selected universities did not match respondents' expectations. The heads of departments did not articulate the universities' missions to the lecturers neither did they manage academic programmes as lecturers expected. In addition, the teaching-climate was not promoted to the lecturers' expectations. Accordingly, this paper recommends the heads of departments of the Uganda's public universities to improve the manner in which they communication their universities' mission to the lecturers. This will enable the lecturers to comprehend the mission well and work towards achieving it. The department heads should also improve the degree to which they manage the academic programmes offered in their respective departments. They should particularly pay attention to improving how they supervise, monitor, appraise and provide feedback about the job performance of the lecturers whom they supervise. Furthermore, the public universities in Uganda should improve their teaching-climate by ensuring that all the teaching and learning facilities lecturers and students need to teach and learn are made available. Being public universities implies that these institutions' top management should lobby government to increase the funding of their instructional budget.

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Budget Implementation Strategies and Organisational Effectiveness in Colleges of Education in Nigeria

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Abstract. This study examined the relationship between budget implementation strategies and organisational effectiveness in colleges of education in Nigeria. Simple random sampling was used to select 24 colleges of education while stratified random sampling was used to select 432 staff as participants in the study. A questionnaire tagged "Budget Implementation Strategies Questionnaire" (BISQ) and one pro-forma titled "Student Academic Achievement Schedules" (SAAS) were used to collect data. The instruments were validated by experts. The reliability coefficient for BISQ was 0.76. Pearson's Product Moment Correlation (PPMC) was used to test the hypotheses while stepwise multiple regression was used to determine the level of contribution of each independent variable to the dependent variable. The findings were that there was a significant relationship between budget implementation strategies and organisational effectiveness in the colleges. It was concluded that it is necessary to provide technical assistance to units and departments concerned with preparing workable fiscal budgets.

Keywords: Planning; Budgeting; Reform.

1   Introduction

A common characteristic of planning in African countries is the dominant role of the public sector. This is particularly so in educational planning where the growth of government schools is a prominent feature of educational development (Forojalla, 1993). Details of public sector programmes are normally included in government budgets at both the national and lower levels of government. Hence, as additional objectives for action, the budget plays a role in planning, programming and controlling educational cost during the plan period. Omosidi and Abdulkareem (2012) stated that budget is one of the principal instruments

with which the authorities of an educational system express their priorities for a period of time. In fact, budgeting offers the management the opportunity to examine detail of financial plans for both general situation of the economy and the economic inter-relationship among all the educational systems of various activities.

Budget prepares the organisation so as to ensure that the required resources are available at the right time and in the right amount in order to facilitate the completion of proposed actions and accomplish planned objectives. Consequently, there is usually more detailed costing in the budget than in the plan. Nevertheless, both the plan and the budget provide a comprehensive picture of what is intended and expected and the means by which the objectives are achieved. This makes the budget a powerful tool in the planning process. Budget thus controls the implementation of the plans through the programming of its cost and ensuring the annual appropriation of funds needed.

However, the implementation of budget is as important as the budget plan itself. This is because if budget is not effectively implemented there is the tendency of misappropriation and/or mismanagement of funds allocated to institutions. Brennan (1999) reported that even though budget implementation strategies are   conditions by the nature of the educational institutions and authority in higher education system, they are capable of raising the profile of teaching and learning in higher institutions. Omosidi and Oguntunde (2016) noted that budget implementation controls the financial behaviour of administrators in a school system because it prevents waste or reckless spending of funds provided for various educational services. Studies have also established that some educational administrators have been found for misappropriation of funds which were meant for education purposes. For example, Okorie (2015) elucidated that school managers in Nigeria tend to be transferred or even lose their jobs due to fiscal mismanagement.

It is against this background that the study was set to examine the relationship between budget implementation strategies and organisational effectiveness using students' academic achievement in Nigeria colleges of education. It is assumed that the implication of this to educational planning is that the quality of input injected into the educational system would probably determine the output of the system. In other words, if budget is effectively implemented by the heads of colleges of education there is the tendency for the institutions to be effective by achieving target goals which are often expressed through students' academic achievement, if all other factors remain constant.

1.1   Purpose of the Study

The main purpose of the study was to examine the relationship that existed between budget implementation strategies and organisational effectiveness in Nigeria colleges of education. Specifically, the objectives of this study were:

1. to find out the relationship between the use of budget committee and organisational effectiveness in Nigeria colleges of education;
2. to examine the relationship between the use of call circular and organisational effectiveness in public Nigeria colleges of education; and
3. to determine the relationship between the use of budgetary control mechanism and organisational effectiveness in Nigeria colleges of education.

1.2   Research Hypotheses

The general hypothesis is that there is no significant relationship between budget implementation strategies and organisational effectiveness in Nigeria colleges of education. The following operational hypotheses guided the study:

HO$_1$:   There is no significant relationship between the use of budget committee and organisational effectiveness in Nigeria colleges of education.

HO$_2$:   There is no significant relationship between the use of call circular and organisational effectiveness in Nigeria colleges of education.

HO$_3$:   There is no significant relationship between the use of budgetary control mechanism and organisational effectiveness in Nigeria colleges of education.

1.3   Significance of the Study

This study is concerned about ensuring prudent utilization of funds meant for institutional development by the college administrators. The study would also show the details of plans and programmes of educational institution which would give coherence and direction to the actions and decisions taken by managers on how to implement their budget plans in the institutions. The study would constitute a helpful resource to agencies such as Federal and State Ministries of Education during the annual budget implementation in the appointment and requirement of academic staff and administrators of public Nigeria colleges of education.

1.4   Scope and Limitation of the Study

This study covered all the 67 public colleges of education in Nigeria as at the time of the study. However, the colleges used were limited to 24 federal and state-owned ones. The study covered three academic session (2012/13–2014/ 15) in all the sampled institutions.

There were many indicators of budget implementation strategies including the appointment of budget committee, use of call circular, use of budgetary controls, goals/needs prioritisation, use of fund raising, tapping resources, use of communication strategy, and use of timelines. But this study was limited to the use of budget committee, use of call circular and use of budgetary controls only.

The indicators of organisational effectiveness include students' career development, faculty professional development, general employment satisfaction, students' academic and personal development, system openness, teaching effectiveness, students' achievement, research publications and community services. However, this study was limited to students' academic success in moderated final examination for a three-year period (2012-2014).

2   Related Literature

The relationship between budget implementation strategies and organisational effectiveness cannot be overemphasised. Budget implementation strategies are the linking-pins to organisational effectiveness. Some researchers have established that effective budget implementation strategies, to a great extent, are crucial to quality goal achievement in all organisations. For example, Brendis (1999) enumerated the impact of budget implementation strategies on goal achievement of educational institutions as thus:

1. It promotes broad based participation during budget planning process and strong organisational support during implementation;
2. It serves as opportunity to focus energies and co-ordinate resources across department, engaged efforts of teachers, students and parent to improve on learning outcome;
3. It enables the budget committee to provide a channel for gathering and distributing information and research findings, recommend budget initiatives for administrative approval and implementation and co-ordinate institutional activities;
4. It improves the organisation through the definition of clear policy for implementing the budget;
5. It Provides professional development and careful planning to overcome inter-departmental conflict and barrier that may impede equitable integrations of resources necessary to achieve school organisation goals; and
6. It provides bench-marking (i.e. best practices) that lead to superior performance in the education industry.

Brennan (1999) reported that even though budget implementation strategies are conditioned by the nature of the individual institutions and authority in higher education system, they are capable of raising the profile of teaching and learning in the institutions. Brennan (1999) added that the overall impact increased when the mechanism gained legitimacy at the faculty and departmental level, and that increased centralisation and managerialism were the characteristics at the level of the institution. Watts (1992) studied major OECD countries looking at budget

implementation strategies and academic goal achievement of the eight commonalities. Watts found that input measures like the number of students' enrolled with goal or result-oriented estimates of outcomes, such as quality and employability of graduate increased. Johnstone (1998) confirmed that colleges and universities that adopted budget implementation strategies were able to increase their legitimacy and chances of survival.

Furthermore, a study by the National Association of State Budget Office (NASBO, 1996) which reviewed measures adopted by 38 states to ensure steady supply of students in higher educational institutions, found that budget implementation strategies enhance judicious expenditure of funds allocated for the purpose. As a result, students who graduated in high school in three consecutive academic years maintained a GPA of at least 3.0 out of 4.0. Albright (2000) also reported that in the year 1998, when 100% of state higher education funds were allocated on the basis of institutional performance on 37 specific indicators which included the use of budget implementation strategies such as financial guideline, staff training and development, the Total Quality Assessment (TQA) which included student entry profiles, expenditure per student, the progression and completion rate increased. Albright further stressed that indicators relating to research publication, grants, number of assistants and students employed and research environment increased in manifold.

Relevant empirical studies were also carried out to determine the relationship between budget implementation strategies and academic goal achievement. For example, Munn (2004) carried out a study on budget implementation strategies and administrative goal achievement in Korea higher education institutions. The budget implementation strategies investigated consisted of: (1) selection of special task force to implement the budget procedure; (2) development of budget time table; (3) preparation of budget manual; and (4) development of follow-up training indicating stages of the budget cycle. The study used 25-item questionnaire statements to collect information from 250 administrative officers. Spearman ranking order was employed to analyse the data collected. The study found that selection of special task force to establish budget implementation procedure ranked highest among the strategies that achieved the goals and objective of Korean higher institutions of learning. In another study conducted by Oguntunde (2007) on the relationship between communication of budget information and goal achievement, it was discovered that communication of information on budget preparation and administration enhanced the motivation of budget officers to achieve their organisational goals. Furthermore, Abdullahi (2015) investigated the relationship between setting budget priorities and achievement of the goals of North-central states in Nigeria. The study used both the descriptive and inferential statistics to analyse the data collected from 100 respondents. The study found that there was a positive significant relationship

between setting budget priorities and achievement of quality teaching and learning in North-Central states higher educational institutions in Nigeria.

Stiefel (2001) investigated the relationship between use of budgetary control mechanism and students' academic achievement. The sub-variables of budgetary control used include pre-spending auditing, concurrent spending auditing and post-spending auditing. Also, students' academic achievement was measured using student enrolment rate, student mobility rate and student academic achievement in standardized final examination. In the study, 44 schools were sampled in 13 school districts in US, Canada and Australia. The study was a descriptive survey of the correlational type. The simple random sampling technique was used to select the 44 schools' decision makers who were accountable for students' academic achievement. The study used two questionnaires tagged: "Budgetary Control Mechanism Rating Scale" (BCMRS) and "Student's Academic Achievement Rating Scale" (SAARS). Data collected were analysed using the descriptive and the t-test statistics. Consequently, Stiefel's (2001) findings revealed that: (1) pre-spending auditing was significantly related to students' enrolment rate at (1.45); (2) concurrent spending auditing was related to students' mobility rate at (0.12); (3) while post- spending auditing was significantly related to student achievement in fourth and fifth grade during the study period at (0.31).

Stiefel's (2001) study and the present study are quite similar. This study examined the relationship between budget implementation strategies and organisational effectiveness. Budgetary control mechanism was among the indicators of implementation strategies considered. Students' academic achievement in final NCE examination was also used. Just like Stiefel's study, the research design of the present study is a descriptive survey of the correlational type. Simple random sampling technique was used to select 24 out of the 67 Colleges and 432 administrators and educators out of the 680 in the colleges involved in the study. To collect data on the relationship between implementation strategies and organisational effectiveness, "Budget Implementations Strategies Questionnaire" (BISQ) was used.

Instead of the t-test statistics that was used by Stiefel's study, the present study adopted the Pearson's Product Moment Correlation and Stepwise multiple Regression analysis to test the significant relationship between the two variables and examined the level of contributions of each independent of sub-variables on organisational effectiveness at .05 level of significance.

3   Methodology

The population of the study consists of 75 colleges of education in Nigeria as at the time of the study. These were 20 Federal, 38 State, 16 Private and one Army

colleges of education (NCCE, 2016). Out of these, only 24 colleges were selected using the simple random sampling technique. Furthermore, the stratified random sampling technique was used to select 432 out of the 680 academic and non-academic staff as participants for the study.

A researcher-designed questionnaire tagged, "Budget Implementation Strategies Questionnaire" (BISQ) and "Students' Academic Achievement Scheduled" (SAAS) were used to collect relevant data for the study. BISQ comprised of 30 items which were on a 3 point Likert Scale (Always so, Sometimes so and Never so). "Always so" attracted 3 points, "Sometimes so" attracted 2 points, while "Never so" attracted 1 point. Respondents indicated with a tick of the frequency with which their departments adopted any of the criteria of budget implementation strategies as applicable to their colleges. The "Students' Academic Achievement Format Schedule" (SAAS) is a format used to collect final year NCE students' examination results for a period of 3 years (2012-2014).

The instruments were given to experts in the dependents of Educational Management and Social Sciences Education for validation which led to the development of the final instruments used for the study. The reliability of BISQ was determined using the split-half method. The reliability of the test yielded a value of 0.76.

The copies of the questionnaire were administered on 432 participants. The inferential statistics, which comprises the Pearson's Product Moment Correlation and stepwise multiple regression analysis, were used to test the formulated hypotheses to determine the level of contribution of each independent variable on the dependent variable at 0.05 level of significance.

4 Findings and Discussion

In the subsections that follow, the findings of the study are presented according to the hypotheses stated.

4.1 Main Hypothesis

The main hypothesis stated that "there is no significant relationship between budget implementation strategies and organisational effectiveness in Nigeria colleges of education". The findings on the hypothesis are summarized in Table 1.

Table 1: Budget implementation strategies and organisational effectiveness

Variables	N	Mean	SD	Cal. r-value	Crit. r-value	Decision
Budget Implementation Strategies	432	45.61	11.26	0.7430	0.195	HO Rejected
Organisational Effectiveness	432	55.82	24.01			

Table 1 reveals that the calculated r-value of the Pearson's Product Moment Correlation is 0.74 which is greater than the critical r-value of 0.195 at 0.05 level of significance with 430 degree of freedom. Hence, the null hypothesis was rejected. Therefore, there is significant relationship between budget implementation strategies and organisational effectiveness in Nigeria colleges of education.

The findings of this study was in consonance with the outcome of Oguntunde's (2007) study which identified a significant relationship between budget implementation strategies and students' academic achievement. Conversely, the outcome of the study was in disagreement with Ifedi (1999) who believes that the use of budget implementation strategies have also become imperative as heaps of allegations were levied against government administrators of organisations where budgeting has only been an annual ritual but its implementation was zero. However, the findings is an evidence that budget is a reflection of the degree to which the authorities attach importance to the funding of the colleges.

4.2 Operational Hypotheses

HO$_1$: There is no significant relationship between the use of budget committee and organisational effectiveness in Nigeria colleges of education.

Table 2: Use of budget committee and organisational effectiveness

Variables	N	Mean	SD	Cal. r-value	Crit. r-value	Decision
Use of Budget Committee	432	32.15	16.07	0.2958	0.195	HO1 Rejected
Organisational Effectiveness	432	55.82	24.01			

Table 2 reveals the result of correlational analysis testing the relationship between the use of budget committee as budget implementation strategy and organisational effectiveness in Nigeria colleges of education. The calculated r-value is greater than the critical r-value (0.2958 > 0.195) at 0.05 level of significance for 430 degrees of freedom. Therefore, the hypothesis which states

that there is no significant relationship between the use of budget committee and organisational effectiveness was rejected. The implication of the result is that the use of budget committee as a budget implementation strategy had a positive significant relationship with organisational effectiveness in Nigeria colleges of education.

Budget committee is a formalised structure that prepares and monitors budget plans of any organisation. It is usually headed by an accountant because of his professional skill to provide assistance in the process of budgeting. Furthermore, a budget committee must have a budget centre where the budget plan of all departments will be collated before producing the final master budget.

The result of this study might be as a result of the administrators of colleges of education allowing the use of budget committee, as their implementation strategy, to perform their duties without any interference. This assertion is in line with Brendis's (1999) that budget committee will focus their energies and co-ordinate the available resources most effectively to achieve organisational goals, if there were no distractions.

HO$_2$: There is no significant relationship between the use of call circular and organisational effectiveness in Nigeria colleges of education.

Table 3: Use of call circular and organisational effectiveness

Variables	N	Mean	SD	Cal. r-value	Crit. r-value	Decision
Use of Call Circular	432	72.79	36.39	0.4405	0.195	HO2 Rejected
Organisational Effectiveness	432	55.82	24.01			

Table 3 indicates the result of correlational analysis testing the relationship between the use of call circular and organisational effectiveness in Nigeria colleges of education. The calculated r-value is greater than the critical r-value (0.44 > 0.195) at 0.05 level of significance with 430 degree of freedom. Consequently, the hypothesis which states that there is no significant relationship between the use of call circular and organisational effectiveness was rejected.

The importance of call circular as a budget implementation strategy in any organisation has been established. For instance, Balogun (2003) stated that call circular from spending agencies on how to take full cognisance of the price of the country so that their proposed revenue and expenditure will be as much as possible achieve their individual organisation's objectives. That is, call circular guide the administrators on how to carry out an effective budgeting. As a guide, it focuses on how to generate revenue and how the revenue generated can be allocated to all heads in the organisation, using formulas and ratios.

HO$_3$: There is no significant relationship between budgetary control mechanism and organisational effectiveness in Nigeria colleges of education.

Table 4: Budgetary control mechanism and organisational effectiveness

Variables	N	Mean	SD	Cal. r-value	Crit. r-value	Decision
Budgetary Control Mechanism	432	38.27	19.13	0.3926	0.195	HO$_3$ Rejected
Organisational Effectiveness	432	55.82	24.01			

Table 4 reveals the result of correlation analysis testing the relationship between budgetary control mechanism committee and organisational effectiveness in Nigeria colleges of education.

The calculated r-value is greater than the critical r-value (0.39 > 0.195) at 0.05 level of significance with 430 degree of freedom. Thus, the hypothesis which state that there is no significant relationship between the use of budgetary control mechanism and organisational effectiveness in Nigeria colleges of education was rejected. The result of the study agreed with Stiefel's (2001) that budgetary controls had significant association with students' academic achievement in educational institutions in the United States of America. The result also agreed with Kirks' (2003) that budget controls ensure that scarce resources are used appropriately to achieve the goals of any organisation.

Budget controls as implementation strategy include: consistent monitoring of procedures, records and reports of fiscal budget of any organisation. It is a systematic examination and evaluation of accounts of an organisation in order to offer advice to the administrators on the fitness and reliability of their budget plan. In addition, budget controls ensure that budget procedures of any organisation comply with the standard, law and goal of accounting system. Again, budget controls ensure that an organisation's allocation to personnel, property, space development and provision of social services are disturbed as efficiently as possible. It ensures that the organisational goals are the only determinants of budgeting exercise.

Table 5: Relative contribution of elements of budget implementation to organisational effectiveness

Variable	Beta	Standard error	F	Sign. f	Remark
X$_1$	0.5059	0.35091	0.2958	0.05386	Significant
X$_2$	0.3779	0.13312	0.4405	0.8259	Significant
X$_3$	0.4874	0.11582	0.3926	0.3402	Significant
Constant	7.1337	5.35524			

Substituting the parameters given in Table 5 in the fundamental regression equation gives: $Y^1 = 7.1337 + 0.05059X_1 + 0.3779X_2 + 0.4874X_3 + 5.35524$, where Y^1 is organisational effectiveness; X_1, X_2 and X_3 are use of budget committee, use of call circular and use of budgetary control mechanism, respectively.

This shows that for every point increase in the prediction variables of X_1, X_2 and X_3 there will be an increase of 0.5059 (51%), 0.3779 (38%) and 0.4874 (49%) in the predicted criterion Y^1, respectively. This means a unit change in use of budget committee (X_1) will have 51% change in organisational effectiveness (Y^1), while a unit change in use of call circular (X_2) will mean 38% change in organisational effectiveness (Y^1). Furthermore, a unit change in use of budgetary control mechanism (X_3) will have 49% change in organisational effectiveness (Y^1). The low contribution of use of call circular as budget implementation strategy (38%) on organisational effectiveness among other strategies may be associated with the inabilities of most of the heads of Nigeria colleges of education to the use of the financial resource available for the purpose for which the resource was proposed for in the colleges between 2012 and 2014.

From the similarities, the three independent variables contributed differentially to organisational effectiveness as shown by the observed standard regression weight beta (B) values for each variable.

5   Conclusion and Recommendations

It is concluded that budget implementation strategies were indispensable to organisational effectiveness. The conclusion drawn from the findings of this study are that: the use of budget committee had a significant relationship with organisational effectiveness; the use of call circular was also found to significantly determine organisational effectiveness; and the use of budgetary control mechanism was identified as a significant variable that determine organisational effectiveness in Nigeria colleges of education. Based on the findings of this study, the following recommendations were made:

1. To have sound budgeting implementation in the colleges under review, it is necessary to provide technical assistants to units and departments concerned on how to prepare a workable fiscal budget for effective and efficient implementation. This can be achieved by adapting the budget manual of the federal/state government on how to implement her plan on education for each year.
2. There is the need to formalise the structure of the budget committee as implementation strategy in each college in order to improve in the

preparation of budget planning of the colleges; there is the need to have a manager who will put the budget together and monitor its implementation.
3. The use of call circular as implementation strategy may be used to instruct in these colleges to take full cognisance of the price structure in the country so that their proposed revenue and expenditure will reflect as much as possible the existing economic reality and the future of the country.
4. In order to make the use of budgetary control mechanism as implementation strategy effective, there must be a co-operation among all those concerned with the preparation of the budget. Similarly, detail operations of the colleges should be explained to those involved.

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Professional Development Practices and Service Delivery of Academic Staff at Kampala International University and Kyambogo University

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Abstract. The purpose of this study was to examine the relationship between professional development practices and teaching, research and community service at Kampala International University (KIU) and Kyambogo University (KYU). A total of 466 respondents were involved in the study. Data was collected using a questionnaire and analysed using simple linear regression. The findings were that professional development practices are significantly related with teaching service delivery but not research and community service. Recommendations arising out of these findings are discussed.

Keywords: Professional development; Performance management; HRM.

1   Introduction

Traditionally, universities have defined the role of academic staff to include the domains of teaching, research and service to the society (Luzecky & Badger, 2009). This implies that effectiveness of academic staff is predominantly framed in terms of delivering on teaching, research and community services. Globally, service delivery of academic staff has been recognized as essential in the realization of the core objectives of universities. Academic staff are expected to be effective in teaching content that is *relevant*, preparing before teaching, using appropriate teaching methods, assessing learners' resources and conducting research (Walters & Openjuru, 2016).

In Uganda, service delivery of academic staff has been worsening in public universities. Lecturers are associated with use of the same lecture materials repeatedly; some lecturers do not attend lectures regularly and send notes for photocopying, come late for lectures and/ or do not teach the courses assigned to

them fully (Mamdani, 2007). In addition, Kyaligonza (2010) observes that the decline of research in public higher education institutions in Uganda started in 1971 when the Idi Amin regime plunged the country into economic ruin. In this period Uganda tertiary institutions experienced expulsion of the British, Americans and other whites in 1972 who were cadre researchers.

The resultant effect was that staff and students were isolated from international scholarship. Kagaari and Munene (2010) revealed that academic staff performance in public universities is still a serious challenge with cases of poor teaching and low publication rates registered. For this study, Kasule and Neema (2014) showed that KYU does not have a coherent staff development system, faces challenges such as lack of training and staff development. Over 70% of academic staff in KYU possess, master's degrees with limited focus on professional training a situation which might impact negatively on academic staff service delivery (Kasule and Neema, 2014). Auditor General (2015) observed that KYU is facing performance challenges of academic staff especially in the areas of teaching, research and community outreaches.

In private universities this scenario is not any different. For instance, Kasozi (2009) noted that there were issues related with the way academic staff discharge their responsibilities in the areas of teaching, research and community outreach. Edabu and Anumaka (2014) also noted that at Kampala International University, service delivery was low. Some academic staff have not assessed learners effectively, have neglected responsibilities especially those related with teaching, research and outreaches, and have exhibited a slow pace of modernization of teaching and learning. A similar scenario was reported by National Council for Higher Education Report (2017) that academic staff service delivery at the University was poor. Several factors may be responsible for this poor service delivery but this study was interested in finding out how professional development practices in there and in KYU are responsible for the poor service delivery of academic staff in the two universities.

1.1 Professional Development Practices and Teaching

Imo, Oswald and Ingang (2013) in a study about staff development programs and secondary school teachers' performance in Nigeria empirically revealed that teachers who participated in staff development programs were more effective in their job performance than those who did not in terms of knowledge of job performance than those in terms of knowledge of subject matter, classroom management, the methods and evaluation of students work. However this study was focusing on subject matter and knowledge acquired. It did not lay emphasis on other elements of teaching like lecture presentations, actual teaching and regularity which will be a concern in this study. Amadi and Promise (2013) Dawo, Enose and Tonny (2012) identified that in service training courses,

curriculum change, innovation in teaching methodologies and provision of quality professional growth and development enhance ones service delivery. The previous review was not an empirical study while the intended study was an empirical. Nasreen and Mirza (2012), Khan and Tosoddin (2012) revealed that faculty training and development practices in form of coaching, seminars and workshops were key in in improving teachers skills and attitudes in old universities compared to new universities.

Similarly, Kasozi (2009) workload policy had serious negative implications on research output and quality of research delivery. In this regard research is deemed as not a process but a product. All this is only realized through the role of academic staff who serves as an engine in ensuring that academic staff role of serving as a guide in researches and leading research projects in a university. Specifically, Kasozi (2009) argued that the major role of the professoriate in teaching is creating, disseminating knowledge and public service. Besides involvement in teaching, doing research and community service, academic staff are called upon to advice students, manage projects involving personnel and budgets, chair departments, serve important committee and task forces, raise funds, recruit students, represent Universities in various fora engage in local and international debates as well as acting as role models. The extent to which these are influenced by professional development opportunities is not yet empirically established which this study did the context of Kampala International and Kyambogo Universities.

On the other hand Villegas-Rumours, (2012), Caena (2011) established Grieve and Cozens (2012) established that professional development programs especially supervision, and guidance the service delivery of academic of academic staff. Meanwhile, these were not empirical studies as the prosed study was in KIU and KYU.

Kyaligonza (2010) found out that public universities in Uganda are failing to fulfil the functions of higher education as they lag behind in research while emphasizing teaching. Kasule, Wesselike and Molder (2016) in a study about professional development status of teaching in a Ugandan public university revealed that accredited University education training symposia and community development activities were perceived to be important in improving teaching staff job performance. The above review suggests gaps in the way that most of it was carried out in western contexts and in either primary or secondary school settings. Some of the literature was not directly relating professional development practices on service delivery of academic staff which calls for a need to undertake this study to do so.

Hypothesis 1: Professional development practices is positively related with teaching service delivery of academic staff.

1.2   Professional Development Practices and Research

Altbach (2003) established that professional trainings provided to academic staff and employees especially in Japan and USA allows academics staff to do their researches effectively. Meanwhile, Murphy (2014) revealed that informal mentoring strategy is the main strategy for professional development of librarians in Universities. Consequently, if it is not done research and publication are hindered. Additionally, Paymaster Lyndon and Etale (2014), Supouitz and Tuner (2000) revealed that human resource training had a significant positive relationship with academic staff performance in the areas of research and publication.

Whereas Supouitz and Tuner (2000) showed that professional development practices quality leads to an investigative inquiry that deepens a centre of research among teachers. However, it was not indicated whether scientific techniques like regression analysis and Pearson's Correlation Co-efficient which this study will use were applied in the previous review. Aslam (2013) found out that professional development programs like coaching, seminars and workshops offered to teachers are not so effective in building a high sense of performance in research. This was based on the promise that such programs are characterized with inflexible curriculum which ignores teacher's research needs.

Furthermore, Nakimuli and Turyahebwa (2015) in a study about institutional efficiency in selected universities in Uganda noted that research is crucial for Africa and African universities should be in the forefront in undertaking it. In this case the universities where the study was done were Makerere University and Kampala International University. However, the study did not cover KYU. As well, it did not do much with professional development practices but rather much effort was put on institutional efficiency.

Hypothesis 2: Professional development practices is related associated with research service delivery of academic staff.

1.3   Professional Development Practices and Community Service

Aslam et al. (2012) noted that professional development was a continuous process of acquiring disseminating and executing knowledge to build more capable students and improving on society. Meanwhile, Ozurumba and Amasuomo (2016) in a study about academic staff development and outcomes in state Universities in South Nigeria revealed that a significant relationship exists between staff development and service delivery of academic staff in terms of community service. As academic staff in service training and attendance of conference, workshops influence positively on output of academic staff.

Mushemeza (2016) argued that another core function of academic staff was to make contribution to community outreach. Modern universities are supposed to

be leaders in economic development of their communities and nations. It is therefore important for academic staff to design programmes and projects that focuses on community needs and aspirations. Additionally, Kasule (2015) report that Ugandan private universities hardly engage in community development activities. However, it was not indicated whether professional development is partly responsible for the same low engagement of academic staff in the community development activities.

Hypothesis 3: Professional development practices is positively related with community outreach service delivery of academic staff.

2   Methods

The study followed a cross sectional design. Data was collected from a sample of academic staff as shown Table 1.

Table 1. Population and Sample

Category	Population	Sample	Sampling strategy
Academic Staff KIU	345	181	Stratified sampling
Academic staff Kyambogo	1166	285	Stratified
Total	1511	466	

Most (53%) of these respondents had worked in their respective universities for five or more years. Therefore, the data that they provided can be trusted as plausible, since they had stayed in the universities for an appreciable period of time for their knowledge/views of/on the universities' professional development practices to be accepted as well-informed.

The participants were requested to fill a self-administered questionnaire. The questionnaire had a five-point scale where 1= Strongly Disagree, 2= Disagree, 3 = Not sure, 4 = Agree and 5 = strongly Agree. Confirmatory factor analysis showed reliability values for the items in the questionnaire as follows: Teaching service delivery (TSD) (11 items $\alpha = 0.880$); research service delivery (RSD) (10 items $\alpha = 0.904$); and community service delivery (CSD) (5 items $\alpha = 0.921$). The data collected was analysed using simple linear regression analysis.

3   Results

The findings on professional development practices (PDP), teaching service delivery (TSD), research (RSD) and community service delivery (CSD) are

summarized in Tables 1, 2 and 3 according to the three hypotheses that guided the study.

Table 1. Professional Development Practices and Teaching

Model	Standardized co-efficient	Significance
PDP TSD	0.183	0.004

Adjusted R^2 = 0.030
F = 8.456, p = 0.004

The results in Table 1 showed that PDP explained 3% of the variation in TSD (adjusted R^2 = 0.030.) This means that 97% of the variation was accounted for by extraneous variables. The regression model was good F = 8.456 p = 0.004 < 0.05. This implied that TSD was highly predicted by PDP. Training sessions, seminars, workshops, inductions, coaching and mentoring offered to academic staff have a highly positive significant relationship with TSD of academic staff. Once these are provided and in favour of academic staff teaching needs their TSD enhances and the reverse is true. Hence, the research hypothesis was accepted that professional development practices had a positive significant relationship on TSD.

Table 2. Professional Development Practices and Research

Model	Standardized co-efficient	Significance
PDP RSD	-0.083	0.193

Adjusted R^2 = 0.003
F = 1.703, P = 0.193

Table 2 showed that RSD explained 0.3% of the variation in professional development practices (PDP), adjusted R^2 = 0.003 = 0.3%. This means that 99.7% of the variation is accounted for other factors not considered in the study. The regression model was poor F = 1.703, P = 0.193 > 0.05. This suggested that RSD was insignificantly predicted by professional development practices. Even if these are offered to academic staff or not their RSD remains constant. It further implies that training seminars, study leaves among other professional development opportunities, may not exact impact on service delivery of academic staff. Hence the research hypothesis was rejected in favour of the alternative null hypothesis that professional development practices have no relationship on RSD

Table 3. Professional Development Practices and Community Service

Model	Standardized co-efficient	Significance
PDP CSD	-0.009	0.888

Adjusted R^2 = -0.004; F = 1.020 p = 0.888

Table 3 showed that CSD explained -0.4% of the variation in professional development practices (PDP), adjusted R^2 = -0.004. This means that over 100% of the variation is accounted for other factors not considered in the study. The regression model was poor F = 1.020, p = 0.888 > 0.05. This indicated that community serviced delivery insignificantly related with professional development practices. This suggests professional development opportunities in form of training, seminars, workshops among other professional development opportunities may not have an impact on CSD of academic staff. Even when these are offered or not CSD remains constant. Hence the research hypothesis was rejected in favour of the alternative null hypothesis that professional development practices have no relationship on CSD of academic staff.

4   Discussion

4.1   Professional Development Practices and Teaching

Table 1 shows a positive significant relationship between professional development practices and TSD of academic staff in KIU and Kyambogo Universities. Study findings in this regard showed that academic staff who received both on and off job professional development practices were better positioned to service as expected in the field of teaching. Through mentoring study leaves, coaching, monitoring and other professional development practices academic staff would adequately prepare, teach, examine learners guide and counsel them.

These findings were in line with findings of Imo, Oswald and Ingang (2013) in a study about staff development programs and secondary school teachers on performance in Nigeria empirically revealed that teachers who participated in staff development programs were more effective in their job performance than those who did not in terms of knowledge of job performance than those in terms of knowledge of subject matter, classroom management, the methods and evaluation of student's work. The study findings were in support of Amadi and Promise (2013) who observed that in service training brings about curriculum change, innovation in teaching methodologies and provision of quality professional growth and development. The study findings concurred with Nasreen and Mirza (2012) in a study about faculty training and development in public sector universities in Punjab.

Khan and Tajoddin (2012) findings that teacher's professional development programs are of great significance for teachers learning and improvement practices to enhance quality of teaching and learning in schools. Professional development programs attempt to change teachers' beliefs about certain aspects of teaching a particular curriculum or innovation. Similarly, Guskey (2010)

observed that professional development programs enhance primary teacher's understanding of content of subject matter, knowledge to teach and how students learn that content. Therefore, it is concluded that professional development practices have a strong positive relationship with teaching.

4.2   Professional Development Practices and Research

Simple linear regression analysis results and regression analysis results on this objective revealed an insignificant relationship between professional development practices and RSD of academic staff in Kyambogo and KIU. These findings meant that even if developed academic staff research delivery remains constant. These findings disagreed with those of earlier studies like Supouitz and Tuner (2000) who showed that professional development practices quality leads to an investigative inquiry that deepens a centre of research among teachers. However, it was not indicated whether scientific techniques' like regression analysis and Pearson's Correlation Co-efficient this study will use were applied in the previous review. The study findings also differed from Aslam (2013) who found out that professional development programs offered to teachers are not so effective in building a high sense of performance in research. This was based on the promise that such programs are characterized with inflexible curriculum which ignores teacher's research needs. In more less the same way Takbir (2011) disagreed with the study findings that teachers leaning and professional development offers critical skills like those related with reflective practice, action collaborative research which boosts teachers' research skills. In conclusion, professional development practices insignificantly related with RSD of academic staff in KIU and Kyambogo Universities. In conclusion, professional development practices insignificantly related with RSD of academic staff in KIU and Kyambogo Universities.

4.3   Professional Development Practices and Community Service

On this objective, simple linear regression analysis findings obtained from the study showed that professional development practices insignificantly related with CSD of academic staff. This finding suggested that PDS in form of coaching, monitoring, mentoring, study leaves, among others did not impact at all on CSD of academic staff. This finding agreed with earlier works of Kasozi (2009) which basically attributed low RSD of academic staff to the low university funds that cannot allow training academic staff to the level that can enable them serve their communities. The study findings that professional development of academic staff are insignificantly related were supported by Kasule (2015) who reported that Ugandan private universities hardly engage in community development activities and that the quality of education provided is

relatively low. However, it was not indicated whether professional development is partly responsible for the same low quality higher education.

The study findings differed from, Ozurumba and Amasuomo (2016) in a study about academic staff development and outcomes in state Universities in South Nigeria revealed that a significant relationship exists between staff development and service delivery of academic staff in terms of community service. As academic staff in service training and attendance of conference, workshops influence positively on output of academic staff. In nutshell, professional development practices insignificantly related with service delivery of academic staff in KIU and KYU. Hence, academic staff are ought to be provided with professional development practices to enhance their TSD. However, university administrators should not lay more emphasis on professional development practices hoping to improve on research and community outreach service delivery.

From the study findings and discussion, the following conclusions were drawn; Professional development practices have a highly positive significant relationship with TSD of academic staff at KIU and KYU. Further, it is concluded that offering professional development practices like coaching, mentoring, trainings supervision, monitoring, significantly relate with TSD of academic staff at the two universities.

Professional development practices insignificantly relate with academic staff service delivery in KIU and KYU. Even when offered trainings, seminars, workshops, academic staff research delivery in form of publications and co-authoring, among others, RSD would remain the same.

Professional development practices insignificantly relate with CSD of academic staff in KIU and KYU. PDP practices like coaching, mentoring, study leaves, among others offered to academic staff do not at all relate with academic staff service delivery in their communities of KIU and KYU.

If service delivery of academic staff is to be enhanced, therefore, administrators should promote mentoring, coaching, offer of study leaves and training of their academic staff. However, the administrators should also look beyond capacity building through professional development practices to focus on *other* determinants of service delivery. This is because professional development practices accounted but only for a small percentage of service delivery. Research into these other determinants of service delivery is recommended.

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Impact of Digitization on the Teaching and Learning of Chemistry and Mathematics at the Distance Learning Institute of the University of Lagos

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Abstract. This study aimed at examining the impact of digitization in the teaching and learning of Chemistry and Mathematics in open and distance learning (ODL) at the Distance Learning Institute of the University of Lagos. A sample of 122 Chemistry and Mathematics students and lecturers was selected using simple random sampling. Data was collected using a questionnaire and analysed using descriptive statistics and Chi-Square. The findings were that the respondents lacked adequate digitization facilities and exposure. Their utilisation of digital facilities was characterized as low. It is recommended that the Institute makes digitization a matter of ultimate priority and provides funds for staff and student training.

Keywords: ICT; E-learning; ODL.

1   Introduction

Digitization is crucially important to data processing, storage and transmission, because it allows information of all kinds to be carried with efficiency and to be integrated. This is why it is a favoured way of preserving information for many organisations around the world. In the provision, utilization and maintenance of digitization in ODL it is expected that teachers and learners enjoy more comfort, convenience, portability, durability, security and accountability. However, they could also be constrained by limitations on the teachers and learners; manpower, funding, power, security, location, connectivity, information to digitize, hardware and software requirements and so on. Therefore, this research work is planned to identify the major roles of digitization and problems in using digitized learning and teaching. Despite the benefits associated with digitisation, therefore, its impact need not be taken for granted. There is need to investigate the impact

of digitisation on teaching and learning, even if a host of studies affirm that digitisation is invariably beneficial. This study was conducted to respond to this need, taking the teaching and learning of Chemistry and Mathematics at the Distance Learning Institute of the University of Lagos.

2   Methodology

Data was collected from a sample of 122 participants who were drawn from a population of 250 students and staff of the Distance Learning Institute of the University of Lagos. This was done using a questionnaire. The questionnaire comprised of two sections, namely, A and B. Section A covered the bio-data of the respondents while Section B, which included 64 items, covered attributes of the impact of digitisation on the teaching and learning of Chemistry and Mathematics. Each of these items was structured on a four point Likert scale ranging from a score of 1 to 4, with 1 as "Strongly agree", 2 as "Agree", 3 as "Disagree" and 4 as "Strongly disagree". The data was analysed using frequency counts, percentages.

3   Findings and Interpretation

The findings of the study are summarised in Tables 1 through 4.

Table 1. Role of Digitization in Teaching and Learning of Chemistry and Mathematics in ODL

	SA	A	SD	D	Total
Internet is used for other purposes apart from learning/ teaching	80 (66%)	37 (30%)	4 (3%)	1 (1%)	122 (100%)
Online learning/ teaching is preferred to physical contact	12 (10%)	31 (25%)	32 (26%)	47 (39%)	122 (100%)
Computer Based Test or examination is taken/ given	46 (38%)	53 (43%)	13 (11%)	10 (8%)	122 (100%)
Printing of materials for learning is done	51 (42%)	55 (45%)	11 (9%)	5 (4%)	122 (100%)
Projected lectures are taken/ given	42 (34%)	50 (41%)	13 (11%)	17 (14%)	122(100%)
Video lessons are watched/made	31 (25%)	46 (38%)	18 (15%)	27 (22%)	122 (100%)
There is online interaction with lecturers/ students	31 (25%)	47 (39%)	20 (16%)	24 (20%)	122 (100%)
Learning/ teaching materials are sought online	58 (48%)	48 (39%)	10 (8%)	6 (5%)	122 (100%)
Internet is used for communication	53 (44%)	50 (41%)	10 (8%)	9 (7%)	122 (100%)
Digital Whiteboard is used for Digital Classroom learning/ teaching	30 (25%)	60 (49%)	20 (16%)	12 (10%)	122 (100%)
Virtual library is used to make researches	32 (26%)	51 (42%)	21 (17%)	18 (15%)	122 (100%)
The respondent is aware of online tests	48 (39%)	54 (44%)	8 (7%)	12 (10%)	122 (100%)
Online assignments are used in the Institute	52 (42%)	57 (47%)	8 (7%)	5 (4%)	122 (100%)
Social media is used to interact with lecturers	50 41%)	57 (47%)	9 (7%)	6 (5%)	122 (100%)
Online platforms are preferred to the handwritten	67 (55%)	45 (37%)	5 (4%)	5 (4%)	122 (100%)
Upload or download of online modules helps learning/teaching	60 (49%)	50 (41%)	5 (4%)	7 (6%)	122 (100%)
The respondent started the Institute as a computer literate	56 (46%)	43 (35%)	10 (8%)	13 (11%)	122 (100%)
The Institute teaches the use of computer	18 (15%)	27 (22%)	35 (29%)	42 (34%)	122 (100%)
Online tests are better than paper tests	25 (21%)	32 (26%)	33 (27%)	32 (26%)	122 (100%)
Online assignments are better than the others	31 (26%)	40 (33%)	20 (16%)	31 (25%)	122 (100%)

In Table 1, 117 of the respondents (80 and 37 respectively) agreed that they use the internet for other purposes apart from teaching/learning. Next, 43 of the respondents (12 and 31 respectively) representing 35% agreed that they prefer online teaching/learning to physical contact while 79 disagreed. This shows that more of them disagreed. Then, 81% (38% and 43% respectively) agreed that they prepare/ take Computer Based Tests. Most (87%) of the respondents agreed that they print materials for teaching or learning. Meanwhile, 75% of them agreed that they prepare their lectures using PowerPoint/ take projected lectures. Most of these agreed that they prepare video teaching or watch video lessons. Relatedly, 74% (i.e. 25% and 49% respectively) "agreed" that they use digital whiteboards. Furthermore, 64% (i.e. 25% and 39% respectively) of the respondents "agreed" that they interact online. Interestingly, 106 respondents, representing 87%, "agreed" that they source for teaching/ learning materials online. Most of the respondents "agreed" that they use the virtual library to do research. A similar trend of results was found with regard to online tests, use of social media, use of management information systems and the uploading/ downloading of online modules. Collectively considered, the findings in Table 1 suggest appreciable adoption of ICT at the Distance Learning Institute of the University of Lagos. However, most (77%) of the respondents indicated that the Institute had not given them training in the area of digitisation and computer technology.

Table 2. Challenges in Digitization

	SA	A	SD	D	Total
Computers are expensive to acquire	52 (43%)	43 (35%)	13 (10%)	14 (12%)	122 (100%)
Computers are expensive to maintain	24 (20%)	54 (44%)	14 (11%)	30 (25%)	122 (100%)
Computers are always virus free	14 (11%)	22 (18%)	40 (33%)	46 (38%)	122 (100%)
The internet service is effective	16 (13%)	55 (45%)	20 (17%)	31 (25%)	122 (100%)
Printing is cheap	10 (8%)	25 (21%)	56 (46%)	31 (25%)	122 (100%)
It is inexpensive to subscribe to internet service	18 (15%)	42 (34%)	35 (29%)	27 (22%)	122 (100%)
My files or sites have never been hacked	16 (13%)	51 (42%)	30 (25%)	25 (20%)	122 (100%)
I am always subscribed to the internet	40 (33%)	60 (49%)	13 (11%)	9 (7%)	122 (100%)
I am computer literate	41 (34%)	67 (54%)	7 (6%)	7 (6%)	122 (100%)
I am very fast in typing	21 (17%)	50 (41%)	18 (15%)	33 (27%)	122 (100%)
I can do all sorts of drawing with the computer	15 (12%	35 (29%)	31 (25%)	41 (34%)	122 (100%)
I am aware of and I use special drawing software	17 (14%)	37 (30%)	25 (21%)	43 (35%)	122 (100%)
There are less errors on Computer Based Tests	20 (16%)	50 (41%)	25 (21%)	27 (22%)	122 (100%)
There are less errors in online materials	14 (11%)	55 (45%)	23 (19%)	30 (25%)	122 (100%)
I fix personal computer or devices when they break down	24 (20%)	57 (47%)	23 (19%)	18 (14%)	122 (100%)
I have a personal laptop	41 (34%)	51 (42%)	15 (12%)	15 (12%)	122 (100%)
I have an internet enabled phone	57 (47%)	49 (40%)	9 (7%)	7 (6%)	122 (100%)
I have other devices for accessing the internet	31 (25%)	56 (46%)	16 (13%)	19 (16%)	122 (100%)
I am a software developer	5 (4%)	23 (19%)	50 (41%)	44 (36%)	122 (100%)
I have complementary computer accessories (e.g. printer)	24 (20%)	30 (24%)	45 (37%)	23 (19%)	122 (100%)
I visit the Institute's website	25 (20%)	51 (42%)	17 (14%)	29 (24%)	122 (100%)
I access the Institute's Learning Management System	35 (29%)	63 (51%)	7 (6%)	17 (14%)	122 (100%)
I use YouTube	32 (26%)	59 (48%)	14 (12%)	17 (14%)	122 (100%)

My internet provider is always efficient	21 (17%)	57 (47%)	21 (17%)	23 (19%)	122 (100%)
I am good in internet surfing	26 (21%)	61 (50%)	17 (14%)	18 (15%)	122 (100%)
I am good in videography	13 (11%)	27 (22%)	28 (23%)	54 (44%)	122 (100%)
I am good in computer programming	12 (10%)	24 (20%)	25 (20%)	61 (50%)	122 (100%)
I am good in graphic designing	13 (11%)	28 (23%)	25 (20%)	56 (46%)	122 (100%)
I am good in desktop publishing	18 (15%)	50 (40%)	18 (15%)	36 (30%)	122 (100%)
Power supply is consistent	13 (11%)	49 (40%)	+	27 (22%)	122 (100%)
Internet service provider has adequate network coverage	14 (12%)	49 (40%)	21 (17%)	38 (31%)	122 (100%)

In Table 2, the main challenges affecting digitisation were identified in the areas of acquisition, utilisation and maintenance. Most of the respondents "agreed" that computers are expensive to acquire and to maintain. Most (71% and 51%) of the respondents respectively indicated that "printing", "internet subscription" and computer peripherals are expensive. Only a cumulative percentage of 29 "agreed" that the computers they use are free from viruses, the inference being that viruses are a problem for majority of the respondents. Downtime resulting from erratic power supply and internet service provision was also reported. Nevertheless, on the whole, Table 2 shows significant reach and use of digitalisation equipment among the participants (notably with regard to subscription to the internet, computer literacy [including typing and troubleshooting], computer ownership and utilisation of the Institute's Learning Management System (LMS)'). This indicates a good degree of adoption of ICT at the Institute.

Table 3. Impact of Digitization on Teaching and Learning

	SA	A	SD	D	Total
Online learning/teaching is better for learning all aspects of Chemistry/ Mathematics	13 (11%)	46 (38%)	26 (21%)	37 (30%)	122 (100%)
The online learning/teaching is effective for learning all aspects of Chemistry/ Mathematics	5 (4%)	41 (34%)	48 (39%)	28 (23%)	122 (100%)
Computer Based Test displays all diagrams and signs accurately in Chemistry/ Mathematics	8 (7%)	54 (44%)	23 (19%)	37 (30%)	122 (100%)
ODL can do without the internet in learning Chemistry/ Mathematics	9 (7%)	37 (30%)	51 (42%)	25 (21%)	122 (100%)
The respondent can plot graphs well using the computer	14 (12%)	21 (17%)	39 (32%)	48 (39%)	122 (100%)

From Table 3, it was deduced that majority (59) of the respondents (13 and 46 respectively) being 49% agreed that Online learning is better for teaching/ learning all aspects of Chemistry/ Mathematics whereas; 63 respondents (26 and 37 respectively) being 51% (21% and 37% respectively) did disagree with it. Furthermore, 46 respondents agreed that online learning is effective for teaching/learning all aspects of Chemistry/Mathematics. Also, 62 of the respondents, being 51%, agreed that Computer Based Tests display all diagrams and signs accurately in Chemistry/ Mathematics. Up to 46 of the respondents being 37% agreed that ODL can do without the internet in teaching and learning Chemistry/Mathematics but 76 of them (51 and 25 respectively) being 63% (42% and 21% respectively) disagreed with it. Lastly; 35 respondents (14 and 21

respectively) being 29% (12% and 17% respectively) agreed that They can plot graphs well using the computer then 87 of them (39 and 48 respectively) being 71% (32% and 39% respectively) disagreed.

Table 4. Encouragement of Digitization in Teaching and Learning

	SA	A	SD	D	Total
Institute provides time-to-time orientation on latest trends in digitization	30 (25%)	48 (39%)	23 (19%)	21 (17%)	122 (100%)
The Institute provides financial support to acquire devices	7 (6%)	20 (16%)	59 (48%)	36 (30%)	122 (100%)
The Institute provides free and functional internet for researchers	10 (8%)	28 (23%)	45 (37%)	39 (32)	122 (100%)
The Institute has stand-by engineers and programmers to attend to breakdowns	11 (9%)	51 (42%)	26 (21%)	34 (28%)	122 (100%)
Institute sends staff and students abroad for professional training in digitisation	11 (9%)	36 (30%)	49 (40%)	26 (21%)	122 (100%)
There is consistent power supply in the Institute	26 (21%)	60 (49%)	21 (18%)	15 (12%)	122 (100%)
The Institute has devices for digital classrooms	17 (14%)	61 (50%)	20 (16%)	24 (20%)	122 (100%)
The Institute has enhanced digital devices	18 (14%)	63 (52%)	21 (18%)	20 (16%)	122 (100%)

In Table 4, 78 respondents (30 and 48 respectively) being 64% (25% and 39% respectively) agreed that the Institute provides time-to-time orientation for them on latest trends in digitization as 44 of them (23 and 21 respectively) being 36% (19% and 17% respectively) disagreed. This shows that more of them agreed.

Meanwhile, 27 of the respondents (7 and 20 respectively) being 22% (6% and 16% respectively) agreed that The Institute provides financial support for them to acquire devices while 95 of them (59 and 36 respectively) being 78 (48% and 30% respectively) disagreed. Therefore, more of them disagreed.

In reference to the table also, 38 respondents (10 and 28 respectively) being 31% (8% and 23% respectively agreed that The Institute provides free and functional internet for their research but 84 of them (45 and 39 respectively) being 69% (37% and 32% respectively) disagreed. So because of this, more respondents disagreed.

Then, 62 respondents (11 and 51 respectively) being 51% (9% and 42% respectively) did agree that The Institute has stand-by engineers and programmers to attend to breakdowns hence; 60 of them (26 and 34 respectively) being 49% (21% and 28% respectively) disagreed. This proves that more of the respondents agreed.

Additionally; 47 respondents (11 and 36 respectively) being 39% (9% and 30% respectively) agreed that The Institute takes them outside the country on excursion or professional training on digitization related conferences and workshops although 75 of them (49 and 26 respectively) amounting to 61% (40% and 21% respectively) was of contrary view as they disagreed. With this, more of the respondents disagreed.

Also, 86 respondents (26 and 60 respectively) as 70% (21% and 49% respectively) agreed that There is consistent power supply in the Institute but 36 of them (21 and 15 respectively) being 30% (18% and 12% respectively) disagreed. In consideration of this, more of the respondents agreed strongly with it.

With respect to the same table of information, 78 of the respondents (17 and 61 respectively) being 64% (14% and 50% respectively) agreed that The Institute has devices for digital classrooms while 44 of them (20 and 24 respectively) being 36% (16% and 20% respectively) gave negative responses in disagreement. So, more of the respondents agreed.

Lastly on the table, 81 respondents (18 and 63 respectively) being 66% (14% and 52% respectively) agreed that The Institute has enhanced digital devices and 41 of them (21 and 20 respectively) being 34% (18% and 16% respectively) disagreed. As a result, more of the respondents agreed.

4   Summary, Conclusions and Recommendations

Also, results from research question two clearly revealed that there were challenges encountered by Chemistry and Mathematics students and lecturer in the use of or/and acquiring and maintenance of digitization tools in the ODL. From the responses, although most of the respondents had access to digitization devices and even the internet but are very limited in use of most essential packages that aid teaching and learning such as PowerPoint, videography, programming languages, graphics designing, desktop publishing and some others. They also in higher number decried the inefficiency of internet services amongst high cost of acquisition and maintenance of digitization tools. However, this is partly responsible for digitization utilization in teaching and learning of Chemistry and Mathematics in the Institute.

More so, from the results obtained from research question three, responses gathered from the selected respondents proved that digitization generally goes a long way in having positive impacts in teaching and learning comparing to Chemistry and Mathematics but cannot be solely relied on in effective delivery of teaching and learning of Chemistry and Mathematics due to the technicalities of explaining and understanding of the two learning areas especially considering

the calculations, signs and diagrams that are both technical to draw, analyse and understand. The contributing factors to this kind of result are unreliable power supply, limitations on the lecturers and students in advanced digitization use, non-availability of advanced but easy-to-use digitization tools and others.

Lastly, result gotten from research question four suggested that the Distance Learning Institute, University of Lagos, Akoka still has a lot more to do in empowering and encouraging her Chemistry and Mathematics students and lecturers in up-to-date possession of contemporary digitization tools and current exposure to trending advancements in digitization. Evidences from the research question fours proved that the Institute needs to do more in providing time-to-time orientation for her students and staff on latest trends in digitation, provision of financial support for them to acquire devices, provision of consistent and effective free internet access, employment of proficient standby engineers and programmers to attend to hardware and software breakdowns, expose them across the borders of the country for foreign trainings, improve on consistent power supply and acquire more contemporary digitization devices.

The foregoing analyses show that a lot more needs to be done to sustain optimally; the desired impacts of digitization in teaching and learning of Chemistry and Mathematics in Open Distance Learning (ODL)

The findings revealed that digitization still suffered some constraints in the teaching and learning of Chemistry and Mathematics in ODL. A significant relationship between digitization and teaching and learning of Chemistry and Mathematics in ODL was established, which suggests that the more the application of digitization, the more effective the teaching and learning of Chemistry and Mathematics gets. So it is concluded that digitization is a critical variable in the teaching and learning of Chemistry and Mathematics in ODL. More funds and trainings were needed to further empower the ODL students and their lecturers because it is one thing to have tools for digitization and another thing to have capable manpower to utilize them. The inadequacy of power supply and inefficient internet service provision were both threats to maximal impacts of digitization. Therefore, it was concluded that the Distance Learning Institute of the University of Lagos is not yet ready for heightened adoption of digitization in its operations.

Based on these conclusions, it is recommended that continuous in-house and external training of lecturers and orientation of students on up-to-date embracement of digitization be conducted. Development and training of digitization experts who are specifically prepared for instructional design and development and who will work in partnership with the Institute for parallel consistency in the use and maintenance of digitization tools is also recommended. It is recommended that the Institute generates its own power supply off the national grid to ensure consistent power supply. Partnership with standby internet service providers, to ensure regular internet service provision, is

also recommended. Finally, improvement in support to Chemistry and Mathematics students and lecturers in acquisition of digitization tools and frequent exposure to modern improvements through soft loans, subsidies in purchase or training, payment on instalment for devices is also recommended.

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Analysis of the Teacher Training System in Ethiopia with Specific Reference to Areas for Improvement

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Abstract. The objective of this study was to analyse the teacher training system in Ethiopia with the view to identify opportunities for revitalization. The analysis started with a desk review before proceeding to a survey. This was conducted in South West Ethiopia. The analysis of the teacher training system was framed in line with teachers' social status of teaching profession; modalities of the teacher education program; program structure and curricula; teacher education and school partnership; qualification requirement; processional development and teacher competences. The findings confirm weak social status of the teaching profession and statistically significant difference between students' and teachers' perception of teacher competence. Gaps in the structure and curricula of teacher education programmes; school partnerships; and teacher qualification requirements are noted. Review of teacher training programmes, improving teachers' benefits and establishment of a quality assurance mechanism in teacher education are recommended.

Keywords: Teacher training; Curriculum reform; Quality assurance.

1 Introduction

Ethiopia is envisaging in improving the quality of teacher training since the endorsement the education and training policy of 1994. Several reforms and strategies were designed to strengthen the quality of general education in Ethiopia with a special focus on improving the capacity of teacher training colleges at regional and national levels. According to Ministry of education (1994) the main priority action areas identified and targeted in the policy were: certification of teachers, the balance between subject matter and professional knowledge, in service and pre-service modality of teachers development, institution of career structure for professional development, intensifying the

teaching profession, the autonomy of teacher training institutions, inclusion of special needs education in teacher preparation, the medium of instruction in pre-primary and primary education, the decentralization of educational management and the funding of general education with cost sharing at the higher level (MOE,1994).

Currently, the Ministry has established centres of excellence in education in selected universities and provided them with the responsibility of feeding policy makers and implementers with the evidence-based action points that can improve the preparation and development of quality teachers for quality students' learning (MOE, 2008). The analysis is to draw lessons for teacher development and providing input into assessment in teacher-development. The analysis is important for the revitalization of new models of teacher-training programs in the country.

1.1   Problem

The Ethiopian education and training policy endorsed since 1994 was reasonably comprehensive in the sense that it refers to the different levels of training and the various teacher education components to deliver the educational services the country envisioned. Later on, there were strategies to further strengthen the provision of educational services, focusing on improvement of teacher competences, raising the standard of teacher training institutions, development of in-service training program for teachers and establishing an attractive and realistic career structure for teachers (Hunde, 2014).

Programs to upgrade the qualifications of teaching personnel in the regions were launched. Apparently, however, there is considerable work that is yet to be done (MOE, 2003). The glaring issues around the teacher education programs are the gap between quality and quantity of teachers at all levels, the increasing trends of attrition, the low level of teachers work motivation, the practice of teaching workforce management, poor quality of data on number of qualified teachers and retirement of experienced teachers (Bulder, 2007). The fundamental shift in the teacher education policy of 1994 was the decentralization and organization of its management from Ministry level down to the *Woreda* level (cf. Table 1).

There were also other pressing issues in the teacher education program: issues related to quantity and relevance of subject matter knowledge, nonalignment between pre-service teacher education program and the school curriculum, challenges related to program structure, relevance and effectiveness of professional courses, pedagogical content knowledge and concerns related to incentives for good teachers.

Table 1: Distribution of Responsibility for Teacher Education

Ministry of Education	Regional Bureaus	Zonal Bureaus	*Woreda* Bureaus
Determines the curriculum of secondary and higher institutions and assists regions in curriculum preparation for the first and second cycle of primary education	Recruits qualified teachers for secondary, TVET, TTIs and TTCs Identifies training needs.	Ensures that in-service training is given to teachers and educational personnel	Recruits teachers and other professionals for in- service training and professional development.
Determines qualifications of teachers; trains teachers at secondary and tertiary levels and educational personnel, and assists training programmes of regions	Trains primary teachers and educational personnel.		Supervises school and work with teachers to maintain the educational standards. Manages teacher discipline

Source: Watson & Yohannes (2005)

Although the training and education policy of 1994 served as a steppingstone, the different levels of teacher training have passed through various stages of development. Apart from formal training modalities, continuous professional development was designed for strengthening the quality of teachers (Aklilu, Alemayehu & Mekasha, 2008).

There are many modalities in the teacher-training system. Among others the concurrent or blended model (Bachelor of Education, BED program) teacher training is highly credited in different countries whereas both the consecutive modalities such as add-on model and PGDT and blended or concurrent programmes are practiced in countries like Malaysia, India, Canada, China, South Korea, Taiwan, Hong-Kong and Japan (UNESCO, 1990; Schwille, et al., 2013) use concurrent and consecutive modalities of teacher training.

Since the endorsement of the Ethiopian education and training policy (1994), education sector development programs (ESDPs) have been formulated and implemented in every five year period, within the Ethiopian government strategic plans. In all the ESDPs, attention was given to the teacher training system to provide adequate numbers of qualified teachers to address demand for teachers at all levels of the education system. For instance, the endorsement of Teacher Education System Overhaul (TESO) in 2003 came with a paradigm shift in line with the international trends of active learner-centre training (MOE, 2003, Mekonnen, 2012; Ahmad, 2014; Kedir, 2006).

However, TESO failed within a short period and the Ministry of Education endorsed new strategies, including a Post Graduate Diploma in Teaching (PGDT), designed for secondary school teachers (Abebe & Woldehanna, 2013; Semela, 2014). The Post Graduate Diploma in Teaching (PGDT) was endorsed in 2011 in few universities for the purpose of balancing the content and pedagogical gaps of TESO policy (Abebe & Woldehanna, 2013; Semela, 2014; Kassa & Amdemeskel, 2013; MOE, 2011). Again the PGDT program has got challenges in many aspects in terms of program structure and curricula, admission discrepancies (Koye, 2014 & Aweke, 2015). According to Aweke (2015) PGDT students believe that teachers and the teaching profession receive low social respect, which is common in Ethiopia. Awake (2015) further confirms that those teachers are working with poor motivation and they don't want to remain as a teacher for one day if they get the chance to leave the profession.

Based on these realities, the Ministry of education introduced the integrated approach (balanced content and pedagogical approaches) of teacher training with the qualification of Bachelor of Education (BED) with a new structure that sustains quality and professionalization. This study undertook to appraise this approach and, therefore, the teacher training system in the country with specific reference to South West Ethiopia.

1.2   Conceptual Underpinning

In conducting the analysis, reference was made to the framework given by Darling-Hammond (2006, 2017) and Tacconi and Hunde (2014). These focus on nine components, namely, the social status of the teaching profession; the stand of the teacher-training College; modalities of teacher preparation; program structure and curricula; teacher education pedagogies; teacher education colleges and school partnership; teacher qualification requirements; induction and continuous professional development programmes; and teachers' competence.

The social status of the teaching profession: how stakeholders view the status teachers and teaching profession enjoying compared to other competing professions. These include: teachers professional identity and commitment, salary scale against other competing profession, fringe benefit, academic freedom, career structure and professional development opportunities.

The stand of the teacher-training College: how stakeholders perceive the status and stand of teacher education college and teacher educators compared to other colleges and instructors in higher learning institutes. The indicators are: stand of teacher education college compared to other colleges (resources, staffing's, funds; professional identity of teacher educators (teaching teachers + researching on teaching), teacher educators: policies and practices in relation to recruitment and training of teacher educators, professional preparation of teachers.

Modalities of teacher preparation: how stakeholders perceive the rigorousness of modalities being used in addressing adequate time for learning contents, pedagogical preparation, and longer school based practices. These include: add on program vs. concurrent program, regular vs. summer in-service, discipline vs. professional area focused preparation.

Program structure and the curricula: how stakeholders perceive and realize the effectiveness of structure of teacher education program in preparing competent and professionally committed teachers. program duration ,representativeness of the program contents for development of knowledge bases of teaching, alignment of the curriculum content and practices of different phases of teacher education program so as to avoid counter productiveness ,alignment of teacher education curricula with school curricula and the broader context of teaching in Ethiopian schools.

Teacher education pedagogies: how stakeholders perceive the effectiveness of pedagogies used in teacher education program in effectively and efficiently preparing future teachers. These include: alignment of pedagogies used in teacher education program and key pedagogies emphasized in school curriculum framework, using of pedagogies to support and promote inclusiveness, and the degree to which pedagogies of teaching students with difficulties is being emphasized.

Teacher education colleges and school partnership: how the stakeholders perceive the effectiveness of the current teacher education college and school relationship in allowing the implementation of highly supervised clinical practices for extended period of time. The indicators are: availability of favourable condition for the strong collaboration between university and schools.

Qualification requirements: how stakeholders perceive the appropriateness and effectiveness of requirement set for certifying the would-be teachers to teach. The indicators are: the way the qualification requirement and final examination link the program goal to its different components; link of the program components to the demands of the world of teaching.

Induction and continuous professional program: how do stakeholders the need, effectiveness and appropriateness of induction to bridging teacher education and real world of work as well as the effectiveness of ongoing professional development practices.

Competence of teachers: how stakeholders view on the quality of teachers at pre-primary, primary and secondary school levels for delivery of quality education. these includes: the quality of education across pre-primary schools the quality of education across primary schools ,the quality of education across secondary schools, teachers' normal workload hours per week and professional commitment of teachers.

The conceptual frameworks underline the fact that teachers training system impact on the quality of the classroom environment and the interaction between

teachers and their students. According to Darling-Hammond (2006, & 2017) and Tacconi & Hunde (2014) for development the quality of teacher training; the policy framework requires attention to two types of problems: the quality of teacher-training institutes and efficiency in the process of teachers' pedagogical skill development across schools. Against this background, we delved into the social status of the teaching profession; the stand of the teacher-training College; modalities of teacher preparation; program structure and curricula; teacher education pedagogies; teacher education colleges and school partnership; teacher qualification requirements; induction and continuous professional development programmes; and teachers' competence.

2   Methodology

The study was conducted in South West Ethiopia where three study sites were selected, namely, Jimma University cluster (Jimma cluster secondary and primary schools, teachers, and principals), Bonga Zone cluster (Bonga cluster secondary and primary schools, teachers, and principals) and Gambella cluster (Gambella cluster secondary and primary schools, teachers, and principals). Cluster sampling techniques were employed (Table 1).

Table 2: Distribution of Participants

Participants	Participant by strand	Study Site			Total
		Jimma	Bonga	Gambella	
Teachers	Primary	29	27	31	87
	Secondary	26	19	24	69
Students	Primary	31	21	33	85
	Secondary	24	20	32	76
Total		110	87	120	317

Data was collected using a Likert scale type questionnaire. This focused on teachers' perception of the social status of the teaching profession; modalities of teacher education programs; program structure and curricula; teacher education and school partnership; qualification requirement; processional development and teacher competences. The questionnaire items were adapted from the standard teacher education system analysis frameworks of Darling-Hammond (2006, 2017) and Tacconi and Hunde (2014). The data generated was analysed using descriptive statistics and independent samples t-test.

3 Findings, Conclusions and Recommendations

The findings on perceptions of the social status of the teaching profession are summarized in Table 3.

Table 3: Teachers' social status of teaching profession

Item	N	Current situation		Performance future	
		Mean	St. Dev	Mean	St. Dev
Teaching is the preferred profession	156	2.30	1.356	4.20	.098
Teachers are receiving better salary compared to other job position with equal educational status and work experiences	156	2.03	1.215	4.09	.100
Teachers are better enjoying fridge benefits (house allowance, transport allowance, overtime pay) compare to other equivalent jobs	156	2.00	1.252	4.18	.095
Teachers are freely exercising academic freedom	156	2.79	1.246	4.27	.078
Teachers' career structure is clear and attractive	156	2.65	1.266	4.14	.089
Good opportunities of further education	156	2.85	1.324	4.30	.078
Teachers are receiving need based and relevant short term training	156	2.39	1.333	4.30	.076
Aggregate mean		2.41	1.284	4.21	.087

Table 3 depicts the low teachers' social status of teaching profession. It is expected to do a lot in future teacher development program to address the low status of teaching profession. It is highly demanding area to promote the social status of teaching promotion from the current situation (Mean = 2.41) to the highly demanding status (Mean = 4.21).

Table 4: Status of Teacher-Training Colleges

Items	Current situation			Performance future	
	N	Mean	St. Dev.	Mean	St. Dev.
Teacher education colleges are in a better position compared to similar higher learning institutes	156	2.69	1.249	4.15	.075
Teacher-trainers are full timers and they belong to teacher education college	156	2.82	1.281	4.11	.076
Recruitment of teacher educators is merit based	156	2.58	1.335	4.08	.092
Good further education opportunities for teacher educators	156	2.99	1.333	4.30	.078
Individuals with no teaching license are not considered as full-fledged instructors	156	2.78	1.303	3.89	.098
Aggregate mean		2.772	1.302	4.10	.083

Regarding the current situation on status of teacher-training college, Table 4 shows that it is not up to the standard for keeping the pace of quality teacher training. This points to need for positive policy interventions.

Table 5: Modalities of Teacher Education Program

Item	N	Current Situation		Performance future	
		Mean	St. Dev.	Mean	St. Dev.
PGDT program is preparing competent teachers for secondary schools	156	3.05	1.301	4.26	.080
Summer in-service PGDT program is allowing preparation of teachers on the subject matter, and content pedagogies equivalent to regular program	156	2.79	1.230	4.62	.097
Primary Teacher Education Program is adequate enough in preparing competent teachers for primary schools	156	2.76	1.181	4.65	.085
Summer-in-service and extension or weekends Programs are allowing preparation of teachers on the subject matter contents and content pedagogies	156	2.75	1.244	4.73	.094
Aggregate mean		2.83	1.239	4.54	.089

According to the means in Table 5, the modality of the teacher training program confirms that there is a mismatch between the needs and the practices. The overall modalities of teacher training program need new strategic direction, with exception that regular PGDT program. Therefore, it urges restructuring of the modalities of the teacher training system of summer and extension programs without compromising the maximum competence level of training system.

Table 6: Program Structure and Curricula

Items	N	Current situation		Performance future	
		Mean	Std. Dev	Mean	St. Dev
Duration of Primary Teacher Education is adequate enough to prepare quality teachers	156	2.79	1.161	4.11	.084
Duration of Secondary Teacher Education Program is adequate enough to prepare quality teachers for secondary schools	156	2.83	1.137	4.11	.088
The curricula of teacher education program allows better understanding the nature of students the would be teachers are going to teach	156	2.79	1.166	4.13	.080
The curriculum of the existing program allows better mastery of subject matter contents they are going to teach	156	2.82	1.145	4.19	.080
The curriculum of teacher education program allows the mastery of pedagogies appropriate school teaching	156	2.75	1.144	4.24	.076
Teacher education pedagogies	156	2.93	1.201	4.27	.068
Pedagogies used in teacher education program is aligned with key pedagogies emphasized and used in school curriculum	156	2.65	1.271	4.17	.085
Aggregated		2.79	1.175	4.174	.080

Table 6 shows that the current situation and future demand of teacher education program structure and curricula is too disparate, with the aggregate mean (Current situation mean = 2.79) and (future performance mean = 4.174). The program structure and curricula of teacher education is less congruent with the demands of stakeholders. The overall results of Table 4 show that the current program structure and curricula of teacher education is not adequate. It needs new sets of program structure and curricula of teacher education that ensures quality and relevant teacher development programs for the country.

Table 7: Teacher Education and School Partnership

Item	N	Current situation		Performance future	
		Mean	Std. Dev	Mean	Std. Dev
Teacher educators and school teachers are collaborating on teaching, staff development and research	156	2.68	1.279	4.19	.079
School mentors are strongly supporting student teachers during practicum	156	2.84	1.298	4.13	.089
Practicum allows student teachers learn teaching by doing activities school teachers and mentors are doing for the extended period of time	156	2.90	1.289	4.29	.067
Well experienced and competent mentors are selected and guiding student teachers	156	2.81	1.330	4.21	.085
Aggregate mean		2.807	1.299	4.205	.080

According to Table 7, there is huge gap between the current situation (M=2.8) and future performance (M=4.2) of teacher education and school partnership. There is a loose relationship of teacher education with partnership. It means that either there no policy guideline and structure that link teacher education with other partner or there may be limited capacity of teacher education to work with partners. This implies need to do more on teacher education with school partnerships in future practices.

Table 8: Qualification Requirement

Attributes	N	Current situation		Performance future	
		Mean	Std. Dev	Mean	Std. Dev
Exit exam ensures certification of competent teachers	156	2.88	1.276	4.17	.091
Exit exams systematically link program components with requirement in the world of teaching	156	2.80	1.280	4.19	.088
Aggregate mean		2.84	1.278	4.18	.089

The results in Table 8 show that the stakeholders were uncertain of qualification requirements for teacher development. The current qualification requirement for teacher education is perceived as uncertain on exit exam (M= 2.84). It means that even though the Ministry of education is planning an exit exam policy to be endorsed in all levels of teacher qualification frameworks, stakeholder are

unaware of the requirement of exit policies and procedures. However, it is remarked as important (M=4.18) in future teacher training programs.

Table 9: Processional Development

Items	N	Current situation		Performance future	
		Mean	St Dev	Mean	Std. Dev
Induction program is successfully bridged the transition of new teachers from college to school	156	2.87	1.286	4.16	.085
Ongoing professional development practices are effective in keeping teachers improve their teaching knowledge and skills	156	3.19	1.288	4.28	.074
Aggregate mean		3.03	1.287	4.22	.080

Table 9 shows that ongoing professional development practices on the current situation (M=3.18) were better preferred to induction programs (M=2.87). The computed mean (M= 03) shows that professional development is better than other teacher capacity building modalities. However, the findings show that a lot needs to be done on *both* induction and ongoing professional development (M=4.22, SD= .080) or future teacher training programs. Table 10 further describes the nature of professional development that teachers want to acquire more for future strategic development.

Table 10: Independent T-test for differences in teacher competence

Competence Items	Participant	N	Current Situation Mean	Performance Future Mean	T-test	P value
Understanding characteristics of the target students	students	161	2.62	3.83	-2.616	0.01*
	teachers	156	3.03	4.31		
Understanding how students learn and develop	students	161	2.74	3.92	-2.703	0.007
	teachers	156	3.17	4.47		
Understanding the goal of the school curriculum	students	161	2.82	4.02	-1.795	.0.074
	teachers	156	3.1	4.37		
Mastering of the subject matter contents	students	161	2.72	3.98	-3,129	.002*
	teachers	156	3.2	4.43		
Mastery of pedagogical principles and methods relevant for teaching school contents	students	161	2.71	3.91	-3.944	.000*
	teachers	156	3.19	4.44		
Planning for effective learning for students	students	161	2.7	4.05	-3.944	.000*
	teachers	156	3.31	4.47		
Facilitating learning-centred innovative methods	students	161	2.35	4.04	-3.889	.000*
	teachers	156	2.97	4.47		
Creating effective and conducive learning environment	students	161	2.52	3.95	-3.212	.001*
	teachers	156	3.02	4.4		
Assessing and monitoring learning process and outcomes	students	161	3.11	4.05	-3.984	.000*
	teachers	156	2.62	4.37		
Aggregated mean	students	161	**2.633**	**4.391**	**-3.241**	**.000***
	teachers	156	**3.271**	**4.313**		

From Table 10, it can be recalled that significant differences regarding teacher competences were observed among the teachers (M= 2.633) and their students (M=3.271). However both are demanding more to do on teacher competences in future teacher training programs.

Overall, these findings point to three major recommendations:

1. Revisiting the current career structure for teachers with the view to mitigate the current profiling of teachers and the teaching profession as characteristically of low social status. This may be achieved through improving teachers' conditions of service, especially rewards
2. Reformulating the teacher training system with the view to better tailor its modalities, curriculum and program structure to contemporary needs.
3. Establishing a quality assurance system for any modality of teacher training system that controls the optimum quality standard for general education teacher competence.

Acknowledgement

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Teacher Education at the University of Zambia and Teacher Quality with Specific Reference to English Language

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Abstract. This paper presents an analysis of the quality of teacher education at the University of Zambia by combining the findings of two PhD theses conducted at the University of Zambia and in secondary schools in the last two years. Using self-administered questionnaires and semi-structured interviews, both qualitative and quantitative data were collected from 191 and 200 participants respectively, comprising of students, newly qualified teachers (NQTs), heads of department (HoDs), deans, and lecturers. The findings in the two studies indicate that there are a number of institutional weaknesses in the provision of teacher education at the University of Zambia. Prominent among these weaknesses is the inadequacy of teaching practice experiences for student teachers and the mismatch between subject content offered at the University of Zambia and content taught at the secondary school level. The paper concludes that this combination of poor teacher preparation affects teacher quality, which in turn affects educational delivery by the teachers.

Keywords: Teacher education; Curriculum innovation; Reform.

1 Introduction

This paper presents an analysis of the quality of teacher education at the University of Zambia by combining the findings of two PhD theses conducted at the University of Zambia and in secondary schools in the last three years. The study by Mulenga (2015) titled 'English language teacher education curriculum designing: A mixed methods analysis of the programme at the University of Zambia'[1] has been labelled study 1 while the thesis by Banja (2016) titled 'Mentoring of newly qualified teachers in Zambian secondary schools: An introspection of teachers' and head teachers' perspectives in selected districts of Zambia'[2] has been labelled study 2. The studies reported here are an attempt to

provide part of the solution to problems of teacher education and teacher quality in Zambia. This paper attempts to analyse the connection between teacher education and teacher quality by examining the nature of teacher education being offered by the University of Zambia and retrospectively how the quality of teacher education impacted on the quality of teacher produced, the quality of his/her work and how all this impacted on the education system as a whole.

1.1   University of Zambia

The University of Zambia (UNZA) was established in 1966 by an Act of Parliament specifically to provide an education related to the economic, political, social and cultural conditions of Zambia and which would reflect the wishes and aspirations of Zambians and provide skilled human resources in answer to the national requirements. The university operates within a general government policy framework anchored on two cardinal principles, namely that the university must be responsive to the real needs of Zambia and that it must, on the basis of merit, win the respect and proper recognition of the university world. The idea behind establishing the University of Zambia was to develop a cadre of educated and skilled technocrats that would bring about increased productivity and ultimately increased revenue and wealth for the nation. To achieve the dream of providing highly skilled personnel for the nation, the University of Zambia offers various programmes through the following schools: Education, Humanities and Social Sciences, Law, Medicine, Veterinary Medicine, Agricultural Engineering, Mines, Engineering and Natural Sciences.

1.2   Models of Teacher Education in Zambia

This section of the paper describes the context of teacher education at the University of Zambia by looking at the different models of teacher education available globally and specifically the model used at the University of Zambia.

The literature on teacher education has continued to claim that teacher quality is one of the most important factors that inhibit the quality of education (Darling-Hammond, 1997; Darling-Hammond and Ball, 1997). In Zambia, as may be the same in other countries, learning to become a teacher involves the acquisition of certain skills and knowledge types which can be categorized in three components.

First, there are those knowledge types and skills which relate to educational theory (philosophy of education, history of education, educational psychology, sociology of education, educational administration and planning, school effectiveness and curriculum development). In Zambia, education programmes offer educational theory to student teachers in such a way that it informs the teacher's professional judgements and actions, and provide sufficient range of

concepts and skills for professional growth later in the years. Secondly, there are those skills and knowledge types relating to the content area of the subject (s) that one is to teach and thirdly, there are pedagogical content knowledge or methodological knowledge and skills, that is, knowledge and skills relating to classroom techniques and procedures of teaching a subject. This is a very important component in every teacher education programme because it directly prepares the prospective teacher for teaching.

The foregoing three areas of teacher preparation are basic to all programmes in teacher education in Zambia and they make the three foundations on which the profession is built. As Renshaw (2010) acknowledged the challenge that might exist if the three components are studied concurrently is that teaching subjects designed for the education of students may be pursued for their intrinsic value. Certain conflicts and tensions may arise in the process of achieving the balance, for instance, study for its intrinsic value as opposed to that with an instrumental end; theoretical as distinct from practical activity. Hence a balance between theory and practice need to be maintained in knowledge and skills of the teacher education curriculum.

A survey of the practices in different parts of the world reveals that the three areas explained in the foregoing paragraphs are structured in two ways. The first one is where the student teacher first obtains a qualification in one or more subjects, usually a first university degree, and then studies for a further period to gain an additional qualification in educational theory and methodological knowledge and skills. This model of teacher education is referred to as the serial model.

In the alternative concurrent model, a student studies all the three components at the same time, leading to a qualification as a teacher of a particular subject. The preparation of teachers at UNZA is a four-year university degree consisting of academic majors and minors in teaching subjects and an education programme coursework and field experiences (teaching practice) in the schools. Teacher education in Zambia like most universities in Africa follows the concurrent model. The main challenge with the concurrent model, however, is that students and staff tend to be compelled to focus more on the subject content knowledge at the expense of the pedagogical content knowledge.

With the serial model, there is an advantage of allowing students to concentrate more on the different aspects of their teacher education programmes. However, the aims in either the serial or concurrent model should be to produce an effective teacher of a particular subject area. Therefore, conducting analysis of the job of teaching is vital in both the serial and concurrent model before designing the teacher education programme. Analysing the models that are used in teacher education leads us to reflect on the theoretical approaches that may guide the design of teacher education programmes in such a way that they produce a quality teacher.

1.3   Theoretical Approaches to Teacher Education Curriculum Design

Zeichner (2010) explained that the old paradigm of university-based or college-based teacher education where academic knowledge is viewed as the authoritative source of knowledge about teaching was based on the content-based approach to teacher education. Chishimba (2001) described a content-based teacher education curriculum as one that follows a common curriculum which is based on the traditionally accepted subject divisions which do not take into account the link that exists between theory and practice in teaching. More often than not each course outline or syllabus is designed independently of the others, thereby risking a considerable amount of overlap and repetition. Thus the fundamental integration that is required in order to give direction and meaning to the diverse components is not achieved. Teacher education courses in the content-based approach, as Shulman (1987) explained, are developed without having in mind the school curriculum subject matter which the student teacher is being prepared for. Therefore, such programmes tend to be very academic, scholarly, and remote from classroom teaching. Consequently, content-based teacher education creates a gap between theory and practice in teacher education. This is the gap that Darling-Hammond and Bransford (2005), Hammerness (2006) and Korthagen *et al.* (2001) have all identified between theory and practice as the core problem for teacher education. The lack of connection between school-based practical experience and the academic content in teacher education programmes is believed to be the main reason why graduating teachers are not adequately prepared for teaching their subject areas in schools.

On the other hand, Bowles (2012) described the Competency Based Teacher Education (CBTE) curriculum designing process as one in which there are specific competencies to be acquired, with explicit corresponding criteria for assessing these competencies. Chishimba (2001) further explained that the CBTE programme development ensures that the competencies to be learned and demonstrated by student-teachers are specified in advance. It also ensures that the criteria to be used in making this determination are indicated. What Bowles (2012) and Chishimba (2001) are explaining is achieved through a process of job analysis which must be done prior to curriculum design. Job analysis, or situational analysis as some scholars put it, helps to ensure that all knowledge and skills in the CBTE curriculum are based on what is taught in schools. Eventually, whatever student teachers will study following the CBTE will be similar, in respect of all situational factors, to what they will be expected to do in their subsequent teaching. In this connection, Haberman and Stinnett (1973) stated that many educational administrators and curriculum scholars feel that the graduate of the content-based teacher education curriculum is not adequately prepared for the job of teaching, while the graduate of CBTE is more likely to acquire the relevant knowledge and skills for teaching. Therefore, the CBTE

curriculum is a vehicle that can provide clearly discernible results which give a definite response to the public's demand for accountability in education as explained by Frazier (1999:138) when he stated that;

> Teacher education has a particular place in the university mission. Unlike other professional development and career programmes, teacher education comes into the university culture loaded with public expectations and a sense of urgency of meeting needs and demands of the school curriculum for which the student teacher is being trained.

Thus the rationale for the CBTE curriculum design forces teacher educators to take a hard look at what their curriculum is designed to accomplish and to review carefully the way they go about accomplishing it. This makes the teacher education curriculum 'fit for the purpose' which is a definition of quality teacher education curriculum as defined by Biggs (2001). 'Fit for the purpose', is what Ball, Thames and Phelps (2008) also meant when they stated that there is a special domain of teacher knowledge and skills, for each subject, which is key to the profession of teaching. By conducting job analysis, teacher educators are likely to identify the relevant knowledge and skills. In the case of the Zambian teacher education curriculum, there has been for a very long time a tendency by curriculum designers to programmes that are content based. That is why the findings of the studies being reported in this paper reveal a mismatch between what teachers are to teach and what they learn while in college or university.

2   Related Literature

The section that follows presents a brief review of the literature relevant to the topic under discussion. The early years of the development of western education in Northern Rhodesia, now Zambia, had no proper and co-ordinated education programmes for teachers. Snelson (2012) and Mwanakatwe (2013) both acknowledged that teacher education, was a responsibility of different missionary societies, and was haphazardly done. Zambia has had three major educational policy documents since independence, and these are; the *Educational Reforms in 1977, Focus on Learning in 1992* and *Educating our Future in 1996.* These three documents have tried to give guidelines to the development of education in Zambia.

The education system in Zambia had it clear through the Educational Reforms of 1977 that the teacher education curriculum should produce a teacher who is well prepared in the subject matter and in the methods of teaching in relation to what was relevant for schools. Thus, it was clear in the minds of those who were

behind these reforms that in order to have a well prepared teacher there was a need to design a curriculum which was relevant to what was obtaining in schools.

Fifteen years later, another educational policy called *Focus on Learning* was drafted resulting from the influences of the 1990 World Conference on Education for All in Jomtien, Thailand. Focus on Learning, gave some general guidelines about the expected quality of teachers graduating from colleges and universities. It stated that:

> The quality of Zambia's schools reflected the quality of the teachers manning these schools, while the quality of the teachers reflects the effectiveness of the institutions that train them. … The programme for teacher education, therefore, must be kept under constant review to ensure that it responds to the real needs of Zambia's schools (MoE, 1992:97).

In the 1992 education policy document, teacher education curriculum in Zambia was expected to be designed in such a way that it would prepare teachers with knowledge and skills that were relevant to their job description in their different subject areas. In 1996 a new policy document on education known as *Educating Our Future: National Policy on Education* was issued. Regarding teacher education it was recognised that:

> The quality and effectiveness of an education system depend heavily on the quality of its teachers. They are the key persons in determining success in meeting the system's goals. The educational and personal well-being of pupils in schools hinges crucially on their competence, commitment and resourcefulness (MoE, 1996:107).

The Ministry of Education through this policy advocated that essential competencies that are required in every teacher are mastery of the material that is to be taught and the skill in communicating that knowledge and skills to learners. Therefore, quality teacher education was emphasised. However, the extent to which teacher education reforms have been implemented over the years in view of the quality of teachers graduating from universities and colleges of education has raised concern among Zambian scholars (Banja, 2012 a & b; Chabatama, 2012; Manchishi and Masaiti, 2011; Manchishi, 2004). These scholars have all seriously questioned the quality of the products of the Teacher Education curriculum from the universities and colleges of education in terms of the knowledge and skills that they possess for teaching.

3   Methodology

A descriptive survey design was used in both the studies reported. This design was chosen because it allowed for the collection of in-depth data and its

description relative to such issues as, values, attitudes, beliefs and characteristics (cf. Cresswell, 2009). The approach helped to provide in-depth insight into the perceptions of students and newly qualified teachers.

Both studies used a mixed methods research approach. Mixed methods research combines the collection and analysis of both quantitative and qualitative data into one empirical study. The rationale for mixing the two was for the reason that neither quantitative nor qualitative approach was deemed adequate in itself to capture and reveal the details of the situation of the quality teacher education curriculum designing and the quality of its products. Of the six research designs that scholars such as Creswell (2012) proposed in a mixed research methods approach, the two studies being reported here used the convergent parallel design. Using this design the researchers simultaneously collected both qualitative and quantitative data, compared them, and then used the results to provide answers to the research questions (Creswell, 2012).

Study 1 used self-administered questionnaires that comprised both qualitative and quantitative questions. It also used interviews with lecturers of both content subjects and methodology from the School of Education at the University of Zambia. In addition tests in different components of the Senior Secondary School English syllabus were administered to 4th year students to test their knowledge levels. And lastly, content analysis was conducted on courses in the School of Education.

In the quantitative phase of this study, two research questions were addressed: a) to what extent did the English language teacher education programme have the content required in Zambian secondary schools? b) What was the quality of the products (teachers) of the English language teacher education curriculum? The data which helped to answer these two questions was collected by administering questionnaires and tests to the student and graduate teachers. Factor variables which contribute to producing an effective teacher of English were identified by analysing the job description of an English language teacher in Zambian schools.

Study 1 had 200 final year student teachers who were studying English language as a major teaching subject. These participated in the study by writing tests based on the content that they were to teach in secondary school. They also responded to a five point Likert scale questionnaire on their confidence to teach English. Study 2, on the other hand, had 191 participants broken down into 92 NQTs and 99 HoDs (Tables 1 and 2).

Table 1: Profile of Newly Qualified Teachers (Study 2)

Variables	Categories	Frequency	Percentage
Gender	Male	37	60.6
	Female	24	39.3
	Total	61	100
Age	19 – 24	10	16.4
	25 – 29	38	62.2
	30 – 35	8	13.1
	36 – 40	3	4.9
	No response	2	3.8
	Total	61	100

Table 2 shows the profile of the HoDs in the sample. All the HoDs were purposively included in the sample because by virtue of their positions they were directly in charge of day-to-day supervision of classroom teachers.

Table 2: Profile of Heads of Department (Study 2)

Variables	Values	Frequency	Percentage
Gender	Male	63	63.6
	Female	36	36.4
	Total	99	100
Age	Less than 35 years old	14	14.1
	35 - 40 years	35	35.4
	41 - 45 years	20	20.2
	46 - 50 years	21	21.2
	Above 50 years	9	9.1
	Total	99	100
Highest level of qualification	College Diploma	50	50.5
	Bachelor's Degree	49	49.5
	Total	99	100
Length of period as head of department	Less than 5 years	46	46.5
	5 - 10 years	36	36.4
	11 - 15 years	7	7.1
	16 - 20 years	4	4
	Above 20 years	3	3
	No Response	3	3
	Total	99	100

Two self-administered questionnaires were used to collect data in study 2. One was administered to NQTs and the other to HoDs. In addition, this study made use of qualitative document review which was conducted on documents relating to the training of teachers at the UNZA. These secondary sources provided

further insight and a useful check on information generated from self-administered questionnaires. The documents analysed consisted largely of the Ministry of General Education policy documents. Triangulation of different data sources was important in collecting qualitative data as it helped in comparing and contrasting information from different sources.

In study 1 data analysis for questionnaires was preceded by a statistical scrutiny of the quantitative data. For instance, a normality test was thus used to determine whether the data had a normal distribution and to determine how likely an underlying random variable was to be normally distributed. Respondents' responses were analysed by means of a combination of descriptive and inferential statistics. For data regarding their confidence to teach, content and methodology coverage of different aspects of English language, an independent samples t-test was used to compare the in-service and pre-service mean scores so as to determine the students' coverage and understanding of the different aspects of the English language as it is taught in secondary school. Data on the adequacy of the participants' preparedness in applying types of teaching methods and designing of professional materials was analysed using independent samples t-tests too. Data on the quality of products (teachers) from the English language teacher education curriculum were analysed using independent samples t-tests so as to compare the performance of in-service and pre-service students.

In study 2, quantitative data were analysed to obtain frequencies and percentages. Chi-Square was used to aid comparisons between responses given by the two subpopulations. Qualitative data from both the self-administered questionnaires were analysed through grouping and coding of themes emerging from the study as well as qualitative document analysis which was done through the reduction of data to come up with patterns of dat. Data from different schools was processed until saturation.

4   Findings

4.1   Study 1

This section examines the issues affecting teacher education and teacher preparation at the University of Zambia. Study 1 reports student teachers' performance in Secondary School English Language tests at the University of Zambia.

4.1.1   Student Teachers' Performance

Table 3 shows the minimum, maximum, range and mean of the scores out of ten that student teachers got in the tests that they wrote in various aspects of the

secondary school English language. For instance in sentence transformation the lowest got zero while the highest got four however the mean was 0.89, an indication that most of the students where batched around zero and one. Take summary as another case where the lowest got zero while the highest got seven. However, the mean gives the true picture that most of the students got around three. The same thing applies to reported speech. The total which is out of seventy indicates that the lowest got 17.6 while the highest got slightly above half, 36.5, and a mean of 26.49 which is far way below half, an indication that the student teachers' masterly of the skills and knowledge for teaching these skills was far from what is expected of a teacher.

Table 3: Student Teachers' Scores on English Language Skills taught in Schools

Variable	Minimum	Maximum	Range	Mean
Sentence transformation	0.00	4.00	4.00	0.89
Pronunciation	1.00	9.00	8.00	4.78
Comprehension	2.00	7.00	5.00	4.39
Punctuation	4.00	10.00	6.00	6.52
Summary	0.00	7.00	7.00	2.77
Reported Speech	0.00	6.00	6.00	1.77
Composition	3.00	7.50	4.50	5.44
Total	17.60	36.50	18.90	26.49

This cohort of students was composed of pre-service and in-service student teachers. The in-service students were those who already had a secondary teacher's diploma in English language as s teaching subject. An independent sample t-test was performed to compare the two groups, so as to find out if there was any significant difference in the means of the two groups. It was expected that in-service students should be better than the pre-service ones. Thus, the test scores were subjected to an independent t-test. Table 4 shows in the p value column that they was no statistical significant difference at $p<0.05$ between the pre-service students and the in-service students. These results therefore points to the fact that both groups were the same in terms of their skills and knowledge acquisition of teaching English language in secondary schools in Zambia.

Table 4: Independent t-test of student teacher's Scores on English language Skills

Variable	Type of Student	Mean	SD	t	Df	p
Sentence	Pre-service	1.03	0.96	1.39	80.00	0.17
Transformation	In-service	0.77	0.72	1.37	70.01	0.18
Pronunciation	Pre-service	4.87	2.09	0.41	80.00	0.63
	In-service	4.69	1.75	0.41	74.48	0.69
Comprehension	Pre-service	4.46	1.29	0.49	80.00	0.62
	In-service	4.33	1.21	0.49	77.84	0.63
Punctuation	Pre-service	6.54	1.42	0.08	80.00	0.94
	In-service	6.51	1.76	0.08	79.04	0.94
Summary	Pre-service	2.92	1.91	0.69	80.00	0.49
	In-service	2.62	1.93	0.69	79.35	0.49
Reported Speech	Pre-service	1.46	1.67	-1.56	80.00	0.12
	In-service	2.05	1.72	-1.59	79.62	0.12
Composition	Pre-service	5.38	0.69	-0.58	80.00	0.56
	In-service	5.48	0.77	-0.59	79.99	0.56
TOTAL	Pre-service	26.67	4.32	0.36	80.00	0.72
	In-service	26.34	3.83	0.36	76.37	0.72

4.1.2 Student Teachers' Rating of their Competence

Student teachers were asked to rate themselves on their competence to teach some English language skills during their teaching practice. Most of the students indicated that they were not competent enough to teach the secondary school English language skills since the majority of them indicated that they were either not well or were fairly well competent. This actually matches with the test results in tables 3 and 4 which revealed poor understanding of the knowledge and skills that these student teachers were being prepared for.

4.1.3 Student Teachers' view of the Link between English Language Teacher Education and the Secondary School Syllabus

Student teachers were asked in the questionnaire about their opinions on the nature of the English language teacher education curriculum in relation to their future job of teaching English to learners in secondary school.

- 78% expressed the view that the content courses were too theoretical and 65% further held the view that most of the content courses were irrelevant in relation to what they were expected to teach in secondary school.
- 30% had put it that what was they learnt on the teacher education curriculum was difficult to apply in secondary school.
- 10% of the student teachers also expressed the view that it was important for the lecturers who teach them on the programme to have had taught in secondary school themselves.

From these views given by the student teachers just after they had a real school experience of their future duties, it was apparent that there was something amiss in the teacher education curriculum designing and implementation in the institution in question.

After administering a Grade 11 level test to 4th year students, group interviews were conducted to find out from student teachers, as a way of triangulation, their opinions and views about the relevance of what they had learnt at university in relation to the knowledge and skills that they were to teach in secondary school. One participant expressed the following view;

> As a prospective teacher, am honestly worried and disappointed that I was struggling to answer a number of those questions which I remember meeting in secondary school. (Participant 12).

When asked to describe the link between what they studied at university and the items in the tests, student-teachers' perceptions were that there was a very weak link since most of the courses were too academic and theoretical. Some participants expressed the following views;

> There was no direct link. Otherwise I would have managed to confidently answer most of the test questions (participant 4).

The study also sought to find out what the intentions of the curriculum designers were. The question was thus framed on the premise that the intentions of the curriculum designers of the programme had implications on how the programme was implemented and what kind of a product the designers visualised for the intended industry and future duties of the prospective teacher. The participants who were mainly Deans and lecturers were asked for their understanding and their schools' aims regarding the BA Ed (English) programme on which the students that they were teaching were registered. The responses that the lecturers from the two schools (School of Education and School of Humanities and Social Sciences) gave revealed that, although the two schools were teaching the same students, their understanding of the intent of the programme was different. For instance, upon being asked Dean 1 said;

> Our vision in the department is to produce a graduate who would develop a critical sensitivity to the question of power, ideology, and good public relations. But if they go to teach in school they should have enough formation to teach. We need teachers who are fully baked, however, the courses they do are not 100% preparing them for teaching. But it would be good if they can become analytical.

A lecturer from the School of Humanities and Social Sciences attested as follows:

> I have taught in secondary school before and I know that there is a big gap between what is taught in secondary school and what we teach here. We do not talk about the simple things they have to teach in secondary school.

The researcher understood that the curriculum for preparing a teacher cannot be exactly the same as what was taught in secondary school. The student teacher needs to be better in the understanding of the subject matter than the pupils. However, this is hardly achievable in a scenario where what is taught is completely alienated from what is taught in secondary schools. This represents an extreme case of content mismatch for a professional curriculum such as the teacher education one. This vague understanding of the English language curriculum for education students by Dean 1 was shared by all the participants from his school (School of Humanities and Social Sciences) who were interviewed. While the respondents indicated that they partly knew about the students' primary needs regarding preparation for teaching, it did not seem to be one of their important points of focus as was expressed by the head of section that;

> In my department, we do not only teach education students but we also have students from other programmes although education students tend to be more. So concentrating on education students will not be the right thing for me to do as a lecturer.

This comment came from the lecturer who was teaching one of the first year courses, which is an introductory course for students of English. Another lecturer from HSS had this to say:

> To tell you the truth, we just aim at finishing what is in the course outline. As to whether students have skills and knowledge to teach English language in secondary school or not that is not our mandate. I am a lecturer of linguistics. Actually I do not teach English as it is meant for secondary school. I teach linguistics.

The lecturer above is referring to herself as being a lecturer of linguistics and that seemed to be more important for her than the needs of the students of education and their future.

Another lecturer from School of Education with regard to establishing a linkage between university content and secondary school content observed as follows:

> Yes, I am aware of the content students are to teach in school and it is not very much related to what they do here. What they are doing here is way too advanced and sometimes may give them problems when it comes to coming down to the level of pupils in school.

4.2   Study II

While study 1 looked at the quality of training by drawing on the views of students still undergoing training and those who had just graduated, study 2 (retrospectively) investigated the quality of training that teachers had received in their various teacher education across programmes, by investigating the reasons why NQTs needed professional help from long serving teachers; and obtained data only from teachers that had just graduated from the University of Zambia's teacher education programme and had just started work and linked this to the kind and quality of training they had received through the School of Education at the University of Zambia. In this paper these are referred to as Newly Qualified Teachers (NQTs).

The study found that NQTs and HoDs agreed that NQTs needed help from long serving teachers. The reasons why NQTs needed help from long serving teachers can be summarised into two themes. The first theme relates to inadequate exposure to classroom situation and activities during training. Forty-four (72%) of the sixty-one NQTs in the study indicated that they needed help from long serving teachers because they had inadequate exposure to classroom situation and activities during training. In terms of gender, 24 of these were males, while 20 were females.

Classroom situations or experiences and activities during training are obtained during teaching experience or school experience. To succeed in their career teachers must demonstrate ability to pass on subject content to learners. These skills are solidified during teaching practicum. Yet, teacher education at the University of Zambia has tended to undervalue the teaching practicum component to teacher education which was essential for teaching but had focused on academic and professional content. As Koehler (1988) has advanced, methodology enables a teacher to know which teaching approaches and strategies fit the content, and to know how to arrange the content for it to be effectively delivered to the learners. An adequate period of school-based experience is therefore crucial to quality preparation of quality teachers.

Unfortunately at the University of Zambia students spent very little time doing teaching practice/school experience. This denied students the much-needed exposure to classroom situations and activities during their training. At the University of Zambia for instance, at times teaching practice had been as short as three weeks only. The problem of an inadequate if ineffective teaching practice is acknowledged by the University of Zambia, School of Education as being too short a time for school experience when it states that:

> Students pursuing a degree in teacher education can never stay in a secondary school by way of having some school teaching experience (practice) for a satisfactory length of time, like one full secondary school term, since they

have to be with other UNZA students doing the same content courses but for a different degree problem.

This called for a re-visitation and strengthening of teaching practice as a teacher training strategy and not just use it as a fault-finding exercise as it seemed to be the case in current practice. The second theme on why NQTs needed help from long serving teachers related to the mismatch between content learnt at the University of Zambia and the secondary school syllabus or content for classroom teaching. Twenty-seven (44%) out of 61 NQTs indicated that they needed help from long serving teachers because of the mismatch between content learnt at university and content for classroom teaching. Out of these 27, 17 were males while 10 were females. Arising from the two themes, NQTs indicated a number of specific areas in which they needed help (Table 5).

Table 5: Areas in which NQTs Need Help from Long Serving Teachers

	NQTs (N=61)		HoDs (N=99)	
	Frequency	%	Frequency	%
Improve teaching skills	48	79	97	98
Develop understanding of subject area	42	69	91	91.9
Prepare lesson plans and schemes of work	41	67.2	90	91

In all three items in Table 5 HoDs held a stronger view than NQTs on the reasons why NQTs needed help from long serving teachers. Further, with regard to why NQTs needed help from long serving teachers, the researcher wanted to find out if there were any statistically significant differences between the views of the NQTs and the HoDs. To determine if any significant difference existed, a Chi Square test was conducted; the null hypothesis (H_0) being that there is no significant difference in the perceptions of NQTs and HoDs regarding their perceptions on why NQTs needed help from long serving teachers. The alternative hypothesis (H_1) was that there is a significant difference in the perceptions of NQTs and HoDs regarding their perceptions on why NQTs needed help from long serving teachers. The statistical tests were run at significance level of 0.05, significant levels (p values) which were less than or equal to 0.05 were significant (Table 6).

Table 6: Rationale for NQTs Needing Help from Long Serving Teachers

Variable	Chi Square	Df	P value
Improve teaching skills	20.082	1	1.000
Develop understanding of subject area	8.672	1	1.003
Prepare lesson plans and schemes of work	7.230	1	1.007

Significant at p≤ 0.05, n=160

The results in Table 6 indicate that there was no statistical significance in all the three items: Improve teaching skills (x^2=20.082; p=1.000), Develop understanding of subject area (x^2=8.672; p=1.003), Prepare lesson plans and schemes of work (x^2=7.230; p=1.007). Therefore, the null hypothesis that there is no significant difference in the perceptions of the two groups on why NQTs needed help from long serving teachers is therefore accepted. NQTs saw their inadequacies in more or less the same way that HoDs saw them.

The difficulties in training associated with University of Zambia graduates was an age-old problem that pointed to a training regime that among others, focused on content information that were more advanced than the students needed for secondary school teaching. This finding agreed with the evidence adduced by other researchers on the matter (Mulenga, 2015; Manchishi and Masaiti, 2011) who pointed to a mismatch between content learnt at university and content for classroom teaching. This is in line with the problems acknowledged by administrators in the School of Education (UNZA, nd: 1).

> It has been observed that most of the relevant content skills in some subjects are not taught at all on the grounds that a university degree should not be tied to a secondary school syllabus content specification. The key stakeholders in the country, the Ministry of Education, have for many years consistently pointed out the misalignment between the course content in the degree programme offered for teachers at the University of Zambia and the needs of the secondary school teachers as determined by the content specification in the syllabuses that the teachers will need to follow in their job after graduation.

The mismatch between content learnt during training and the school syllabus as discussed above did not just lead to NQTs needing help in their professional work; it actually created numerous challenges. These challenges pointed to evidence of pedagogical/instructional difficulties *(See Banja, unpublished)*.

The findings pertaining to the inadequate initial teacher training as reported by the participants, and the consequences of this resonates well with the position taken by Lankau and Scandura (2007) who have traced the many needs of NQTs back to their time during initial training and argued that poor initial training has the potential to affect the competence, effectiveness and efficiency of a newly qualified teacher.

4.3   Implications

From both studies that have been presented in this paper, several implications arise. The findings by these two researchers about the inadequate exposure to classroom situations and activities during training and the mismatch between content learnt at the UNZA and the secondary school syllabus inevitably

contributed to students coming out of university ill-prepared to teach, thereby making them highly unlikely to be effective in their work. Student-teachers in the two studies had shown that as prospective teachers they were not being adequately prepared to teach and their lecturers were most likely not providing them with quality learning experiences of the relevant curriculum. In short, as defined by Biggs (2001) these teachers were not 'fit for the purpose.'

The core function of any teacher preparation programme is to help students acquire appropriate skills, knowledge, values and attitudes so that they can offer quality teaching learning experiences to their learners (Futrell, 2010). If the institutional curriculum does not allow for this to happen, student-teachers can experience learned helplessness, the end result of which could be that expected quality outcomes will not materialise. In the case of the findings in these two studies it is unlikely that student teachers and NQTs graduating from the programme would effectively facilitate the process of helping learners to acquire competence in their respective subjects.

The student-teachers in these two studies expressed concern about the balance between theory and practice in their teacher preparation programme. They felt that they were not getting enough practice in their preparation for classroom teaching. Practice in teacher preparation is critical as this is what allows the student teacher to interact with lecturers, fellow student teachers and content; engage in proactive decision-making then model observed behaviours. One assumes therefore that this process should translate into helping student teachers acquire the competencies for teaching a particular subject area. Creating a balance between students' expectations and institution expectations can be more problematic for some institutions. While university education would want to make the student study theories and abstract content, it is also important that this is guided by job analysis of the particular future duties of the profession. The curriculum of any teacher preparation programme is one of the criteria used to judge the quality of the programme. Therefore it must be carefully designed to incorporate all the elements that will contribute to positive outcomes.

4.4   Recommendations

The findings of the two studies revealed the perspectives of teachers, head teachers, and lecturers on the quality of the teacher education programme at the University of Zambia. Based on these findings, the following recommendations were made:

1. The University of Zambia in conjunction with the Ministry of General Education through the Curriculum Development Centre should develop a teacher preparation curriculum that should have clearly defined outcomes which may then be used to judge its quality, with a balance between subject

matter and pedagogy. This teacher preparation programme should be in harmony with the secondary school syllabus.

2. The University of Zambia through the School of Education should strengthen the School Experience aspect of teacher education by lengthening the period of School Experience to a reasonable period of time.

3. There was need for UNZA to periodically review its teacher education programme and performance to ensure that it continues to meet the needs of trainee teachers by raising the quality of teacher education and the quality of the teachers it produces.

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Challenges Affecting Educational Research in Delta State, Nigeria

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Abstract. This study investigated the factors inhibiting the conduct and uptake of educational research in Nigeria with specific reference to Delta State. Data were collected using a self-administered questionnaire from forty-two (42) academic staffs drawn from three universities and three Colleges of Education in the state. The data was analysed using descriptive statistics. Two hypotheses on factors affecting research were tested at the level of confidence p. = .05 using the student-t test. A range of managerial and methodological factors were identified as affecting the conduct and uptake of research in the country. These respectively included absence of a clear national development philosophy and adequate funding for research and gaps in methodological competence and research integrity on the part of educational researchers. These findings are cross-referenced with related literature after which conclusions are drawn and recommendations are made.

Keywords: Research for development; Knowledge management; Policy research.

1   Introduction

The inquisitive nature of people has always led them into adventure with a bid to uncover grounds yet unknown to them. Udegbe and Odigwe (2008) posit that people have always searched for facts yet unknown to them, and when answers to such facts are found, the target is to solve identified problems, hasten progress and development, promote advancement of knowledge, increase understanding of new phenomena and raise the standard of living (Nworgu, 1991). This intrinsic nature of people has not only changed their way of life but has also made them pass through various stages of development over time. In the area of education, educational research is a veritable tool for both educational development and national development. For example, Bajah (1990) sees research as the most important tool for advancing knowledge, for prompting progress, which enables people to accomplish their goals and resolve their conflicts.

Educational research can be regarded as an activity designed to evolve theories guiding the principle and practice of education. It attempts to use the methods and procedures made popular in the physical sciences to find answers to problems facing the education industry (Jimoh, 1998). Generally, educational research involves the systematic application of scientific method to the study of educational problems; the search and application of this knowledge for development of new and improved products, services and industrial processes of capital development which have in recent times emerged to occupy the center stage in the activities of the western universities (Ubogu, 2008).

In fact, research has become one of the most enduring and effective means of boosting sustainable education and economic development and re-enforcing competitiveness in the face of rapid growth taking place among industries, countries and peoples in the world (Bako, 2005). To this end, it could be deduced that educational research encompasses many different studies all of which attempt to better understand and improve the learning and educational process, as well as the nation (Orluwene & Opara, 2006).

In advanced countries, research has come to assume an indispensable status in national development (Nworgu, 1991). In the less developed countries like Nigeria, however, the utilization of research in policy making and development is low and in some cases entirely nonexistent. Although many researches are conducted and their findings published each year, much of this research is not informing policy and practice in the country's pursuit of development. This study delved into this anomaly. Although the poor uptake of research findings could be the consequence of a range of factors, the study focused on managerial and methodological factors as possible inhibitors of uptake of research findings. Therefore, the study undertook to verify two hypotheses that: 1) Academic integrity issues (i.e. academic scandal, and plagiarism) does not significantly constitute a major challenge to uptake of educational research findings in Nigeria; and 2) Scientific methods employed does not significantly constitute a major challenge to educational research findings in Nigeria.

2 Methodology

This study adopts a survey design, and the population for the study consists of 150 Lecturers in Tertiary Institutions in Delta State. The sample is made up of 42 lecturers from 6 Tertiary institutions (3 Universities, i.e. Federal University of Petroleum Resources (FUPRE), Delta State University, Abraka and Novena University, Kwale) and (3 Colleges of Education, i.e. Colleges of Education, Agbor, Colleges of Education, Warri and Colleges of Physical Health Education, Mosogar) all in Delta State based on the number of questionnaire retrieved using

a systematic random sampling technique. Data was collected using a self-administered questionnaire titled "Challenge of Educational Research in Higher Institutions" (CERFHI), which was designed by the researcher. The Instrument was validated by three professionals in educational administration from the three Universities that were involved in the study. A four point Likert scale of (SA) Strongly Agree (4 points), (A) Agree (3 points), (D) Disagree (2points) and (SO) Strongly Disagree was used in the questionnaire. An arbitrary, but logical neutral point of 2.5 forming the average was calculated for each item, signifying that all variables below 2.5 are negative (Disagree) and all variables above 2.5 mean mark are considered positive (Agree).

3   Findings

The findings on the factors inhibiting the uptake of research findings are shown in Tables 1 and 2. Table 1 shows the mean rating of the respondents all scoring above the average 2.5 mean mark, the indicating that the above areas were issues that constitute challenges of Educational Research Findings in Nigeria.
On the other hand, Table 2 reveals the mean rating of the respondents all scoring above the average 2.5 mean mark, thus indicating that the areas enumerated were ethical issues challenging educational research findings in the area.

Table 1: Managerial challenges inhibiting uptake of research

Items	SA	A	D	SD	∑FX	Mean	Std.	Remark
The absence of a clear cut philosophy of educational research in national development	12	18	7	5	42	2.88	0.96	Agree
No clear-cut policy statement on functional educational research in Nigeria	15	12	9	6	42	2.86	1.06	Agree
No budgetary allocation has been set aside for research 'in education and related fields	13	19	8	2	42	3.02	.83	Agree
Research activities are mostly sponsored by Individuals and groups	15	12	9	6	42	2.83	1.19	Agree
Lack of appropriate policy making bodies to guide activities in educational research	19	10	8	5	42	3.02	1.06	Agree
Inadequacy of special funds to meet the research needs in Nigeria	14	12	10	6	42	2.81	1.05	Agree
Over dependence on foreign aid such as USAID and the UNESCO to support research	13	19	8	2	42	3.	.79	Agree
Shortage of equipment used for experimental and scientific research	18	13	10	1	42	3.14	.87	Agree
Over dependence on experimental survey	16	10	9	7	42	2.83	1.12	Agree
Research in Nigeria is generally governed by the "publish or perish" syndrome	17	11	4	10	42	3.07	.81	Agree
Instability of socio-cultural factors where surveys are extracted	16	19	4	3	42	3.14	.89	Agree
Summated Mean						2.96	.96	

Table 2: Methodological challenges inhibiting uptake of research

Items	SA	A	D	SD	∑FX	X=Mean	Std.	Remark
The lack of academic integrity pose treat to educational research findings	17	12	9	4	42	3	1.01	Agree
Poor study design pose treat to educational research findings	15	14	11	2	42	3.05	.9	Agree
Misinterpretation of p-values pose treat to educational research findings	18	10	13	1	42	3.07	.92	Agree
Research procedure pose treat to educational research findings	12	19	5	6	42	2.88	.99	Agree

Research being conducted for selfish reasons rather than for pure research purposes	9	24	5	4	42	2.91	.85	Agree
Summated Mean						2.98	.93	Agree

The hypothesis that "Academic integrity issues (i.e. academic scandal, and plagiarism) does not significantly constitute a major challenge to uptake of educational research findings in Nigeria" was tested using the Student-t test. The findings are summarized in Table 3.

Table 3: Student t- test for hypothesis one

	N	Mean	SD	DF	t-calculated	t-critical	Decision
Academic integrity issues	42	2.91	1.07	41	23.72	1.96	Reject hypothesis one
Effectiveness of Education Research	42	3.02	1.01	41			

The results of the verification of the second hypothesis (i.e. "Scientific methods employed does not significantly constitute a major challenge to educational research findings in Nigeria") are shown in Table 2.

Table 4: T-test for hypothesis two.

	N	Mean	SD	DF	t-calculated	t-critical	Decision
Scientific methods employed	42	3.17	1.07	41	10.23	1.96	Reject hypothesis two
Effectiveness of Education Research	42	3.24	1.01	41			

As shown in the table above the calculated t value of 10.23 is greater than the critical t value of 1.96. Hence, the null hypothesis is rejected while the alternative is accepted. This shows that *Scientific methods employed* constitute a major Challenge of Educational Research Findings in Higher Institutions in Nigeria.

4   Discussion, Conclusion and Recommendations

The research presented above, revealed that the absence of a clear cut philosophy of educational research in national development, the lack of clear-cut policy statement on functional educational research in Nigeria, lack of budgetary allocation set aside for research in education and related fields, Research activities mostly sponsored by individuals and groups, Lack of appropriate policy making bodies to guide activities in the area of educational research, Inadequacy of special funds to meet the research needs in Nigeria, Over dependence on foreign aid such as USAID and the UNESCO to support research, shortage of

equipment used for experimental and scientific research, Over dependence on experimental survey which are less demanding and are the common types of research in Nigeria', over emphasis' of the general "publish or perish" syndrome by researchers in Nigeria, and the Instability of socio-cultural factors distinct to the Nigerian society from where surveys are extracted constitute challenges of educational research findings in Nigeria. These findings infirmed the opinion of Udegbe and Odigwe (2008) who lamented that lack of fund, "publish or perish syndrome", societal believe among other challenges possess treat to educational research findings.

In fact, US funded educational research evaluation has led to many valid useful. Models of pedagogy (Darling Hammond, 1997), to policy commitments in support of research linked to educational improvement and to advances to our understanding of how of how people learn. However, the situation is different in Nigeria were funded research programs and projects have not resulted in pervasive widely accepted, sustainable improvement; or in supportive interplay among researchers, schools, families, employers, and communities (Ubogu, 2008).

Furthermore, it was also revealed that the lack of academic Integrity pose, poor study design misinterpretation of p-values, the research procedure in itself and the fact that research are being conducted for selfish reasons rather than for pure research purposes all poses treat or rather constitute the challenge of education research findings in Nigeria. The findings supports Umoru (2010) who established that poor grasp of critical methods of data analysis and also research procedure are among other factors undermines of research results.

In addition it was discovered that Academic integrity issues (academic scandal, and plagiarism) and Scientific methods employed constitute a major Challenge of Educational "Research Findings in Higher Institutions in Nigeria. This finding is In support of previous studies of Labaree (1998), Willinsky (2001) and Chiekem (2008) who reported among other findings, that scientific quality or method of educational research is usually poor. That is ethical issues in educational research are not put into consideration when carrying out research in our higher institution. Thus, educational research findings cannot yields useful results and as such cannot be utilized because they cannot be relied upon.

The essence of educational research in a developing country like Nigeria cannot overemphasize. It is only through such medium can the countries go from where she is to where she wants to be. Therefore researchers have a great responsibility to exercise care in carrying out research abiding by the ethics of research as highlighted above. This paper therefore is a clarion call for all stake holders (government and private) involved in educational research to keep a keen eye for any abnormalities in Educational Research Findings in Higher institutions in Nigeria.

Arising from the findings of this paper it is recommended that;

1. A modification should be made in the current promotion polity publish or perish syndrome. This will help to eliminate those negative impacts that constitute poor quality research. The implication is that any research that is carefully carried out without considering the time the conference will hold or the next volume of the journal will be produce will actually be a quality one.
2. Researchers should ensure that all data used for analysts is valid and usable for the purpose of the research.
3. The practice of conducting research for the purpose of acquiring higher degrees by students and promotions for teachers in higher educational institutions should be discouraged and be linked to national research priorities and goals. In fact, the quality of educational research and evaluation in our institutions should be enhanced through increased funding by government.
4. Annual Educational budget should be increased to cater for Educational Research.
5. Research should be conducted primarily for the solution of significant problems of a theoretical and applied nature.

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Awareness about and Implementation of Research Findings on Mathematics Education among Teachers in Selected Schools in Ibadan, Nigeria

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Abstract. This study attempted to establish the level of awareness about and implementation of research findings in some aspects of Mathematics Education. Two validated instruments (on teachers' awareness about and their use of research findings) were used to collect data from 132 mathematics teachers who had been purposively selected from a random sample of 34 secondary schools in Ibadan metropolis. The findings were that Mathematics teachers are moderately aware of research findings on Mathematics education. There were significant differences between teachers' qualifications in Mathematics and use of research findings on Mathematics testing. Motivation of Mathematics teachers to explore new strategies of teaching and to implement them in their classroom practice is recommended.

Keywords: Mathematics education; Research utilisation; STEM.

1   Introduction

Research is a way of logical search for information in order to accomplish a task and present it in a comprehensible form (EduBirdie, 2016). When an individual is confronted by a situation or question to which he could not find a ready answer or solution, he seeks to find out by investigation, ask questions, analyse situations, sorts and probably make inference. He is carrying out research in this process. Every one probably perform research in everyday life (M. Libraries, *nd*). In majority of instances, research is not meant to be just for its own sake. Rather, it is directed at solving problems in human lives and society. According to Edubirdie (2016), people carry out research in order to share their ideas, or in order to increase their understanding of challenging topics.

There are many reasons why a particular research is carried out. Most importantly is the concern for problem solving. There are many researches and one may almost be right to say that they are unlimited. Therefore, it becomes necessary to consider the research that aims at solving particular problems at any point in time.

However, studies on how research findings are implemented are not common. There are several aspects of mathematics education in which research have been carried out. Afolabi (2017) studied on the practical approach to teaching and assessment in mathematics. The study was an exposition and confirmation that some aspects of mathematics could be taught through practical approach and as well tested through practical approach. His respondents comprised mathematics teachers, mathematics educators and educationist of many years' experience. The findings showed that it was generally believed that mathematics can be taught practically but it was an opinion of the few that it can be assessed practically. A lot of research on teaching methods and their effects on students' achievement in mathematics abound. These include the study by Ogunbiyi (2004), Douville (2004), Douville and Pugalee (2003), Abimbade and Afolabi (2012).

The direction of these studies include the search of methods commonly used by teachers and rationale for the choice of methods (Afolabi, 2010). This also includes the effects of teaching methods on learning outcomes. Another area of research in mathematics education is research on mathematics textbook which is an unpopular area in mathematics education research. However, it is gaining attention gradually. The authors on mathematics textbooks include Afolabi (2015), Afolabi and Animasahun (2013), Gharbavi and Mousavi (2012), Do (2010) and Johannson (2003). Researches on this area include use of mathematics textbooks, gender representation in mathematics textbooks and mathematics textbook analysis. Another aspect of research in mathematics education is that which bothers on school environment, school leadership and mathematics achievement. This include the work of Omisakin (2018). One of the trends of research in mathematics education is the place of social media and ICT in learning mathematics. Durodola (2017) considered the effect of mobile learning on Trigonometry. He concluded from his findings that students exposed to mobile learning achieved better than their colleagues exposed to conventional method.

Teachers are often exposed to more and new teaching strategies as they go further in the in-service training. It is expected that teachers of higher qualifications are exposed to more and new teaching methods. As a teacher moves from first degree to master's degree, he is expected to be more exposed to new methods and research findings and implementations as his new carrier will bring about these opportunities and exposures. This is not just attainment of a higher degree. Rather, more relevant awareness about research findings and its

implementation in classroom practice occurs if the teacher attains higher degree in mathematics education.

In the application of research findings, a prominent scale was developed by Funk, Champagne, Wiese and Tornquist (1991) and was reviewed among other scales by Kajermo, Bostrom, Thompson, Hutchinson, Estabrooks and Wallin (2010). Before research findings can improve teaching and learning of secondary school mathematics, there is the need to find out firstly, if the end users (mathematics teachers) have access to these research reports or not.

1.1 Statement of the Problem

The basis for a research is to solve relevant problems in human endeavours rather than taking idle curiosity in studying. Results of our students at their final school certificate examinations do not justify the research efforts taking place in our tertiary institutions. It does appear as if the secondary school teachers of mathematics are not conscious of the fact that a discovery of research findings could make the students better off in their learning outcomes. Thus, this study attempted finding out the level of their awareness and implementation of research findings in mathematics teaching.

1.2 Research Questions

The following research questions have been raised to guide the study.
1. To what extent are the mathematics teachers aware of research findings in some aspects of mathematics education?
2. To what extent do mathematics teachers implement research findings in mathematics education?

1.3 Hypotheses

H01: There is no significant difference between mathematics teachers' educational qualification and extent of awareness on research findings in mathematics education.
H02: There is no significant difference between teachers' qualification in Mathematics and extent of implementation of research findings in mathematics education.

2 Methodology

The study adopted a descriptive study of the *expo-facto* type. The population comprised mathematics teachers in Ibadan Metropolitan area of Nigeria. Ibadan

is the largest city in West Africa sub-region especially in expanse and coverage. There are five urban local government areas and six semi-urban local government areas in the less-city. Two Local government areas were randomly selected out of the eleven local government areas in Ibadan Metropolitan area. One local government area was randomly elected from each of the strata identified above. Public (those owned by the government) and private owned secondary schools were randomly selected based on willingness of the school to take part in the study. A total of 132 Mathematics teachers were purposively selected from the 22 participating schools. The two instruments used for data collection are Mathematics Teachers' Awareness of Research Findings Questionnaire (MTARF) and Mathematics Teachers Implementation of Research Findings Questionnaire (MTIRF). MTARF and MTIRF are self-designed instruments with 9 items each relating to possible research areas in mathematics education. MTARF is on a 4-point scale rating (1 to 4) the extent of measure of the attribute concerned while MTIRF was on a 3-point rating scale. MTARF was to solicit information on mathematics teachers' awareness on these areas of research findings in mathematics education while MTIRF solicited information on the extent to which the teachers of mathematics made use of these research findings. These 2 instruments were pilot tested on 19 secondary school mathematics teachers and validated. The coefficients of reliability of MTARF was r= 0.9 while that of MTIRF was 0.8. The data was analysed using descriptive statistics, independent t-test and analysis of variance (ANOVA) at 0.05 level of significant.

3 Findings and Discussions

Research Question 1: To what extent are the Mathematics teachers aware of research findings in Mathematics Education?

Table 1: Awareness about Research Findings in Mathematics Education

Research Areas	No Extent (1)	Little Extent (2)	Moderate Extent (3)	Great Extent (4)	Mean	Std. Dev.	Decision
Mathematics Testing and Assessment	9 (6.8)	34 (25.8)	56 (42.4)	25 (18.9	2.78	.851	Accept
Mathematics Teaching methods and strategies	9 (6.8)	28 (21.2)	57 (43.22)	27 (20.5)	2.84	.856	Accept
Students' learning approach in mathematics	6 (4.5)	25 (18.9)	55 (41.7	32 (24.2)	2.96	.831	Accept
Instructional materials in the teaching of mathematics	10 (7.6)	25 (18.9)	52 (39.4)	36 (27.3)	2.93	.907	Accept
Mathematics Textbooks	9 (6.8)	21 (15.9)	44 (33.3)	42 (31.8)	3.03	.927	Accept
Social Media and the teaching and learning of mathematics	14 (10.6)	32 (24.2)	47 (35.6)	30 (22.7)	2.76	.952	Accept
Classroom environment and mathematics learning	14 (10.6)	19 (14.4)	58 (43.9)	32 (24.2)	2.88	'928	Accept
Teachers' factors in the teaching and learning of mathematics	15 (11.4)	21 (15.9_	59 (44.7)	28 (21.2)	2.81	.926	Accept
Research reports on school leadership and mathematics learning outcomes	15 (11.4)	32 (24.2)	49 (37.1)	27 (20.5)	2.72	.945	Accept

The study considered nine possible areas of research in mathematics education from which the mathematics teachers can derive results for teaching improvement. These areas are on teaching methods and strategies, research on students' learning approach in mathematics, testing and assessment in mathematics, instructional materials in teaching, research on mathematics textbooks, social media, classroom environment, teachers' factors in teaching and learning of mathematics, school leadership and mathematics teaching/learning.

Table 1 shows the level of awareness of secondary school mathematics teachers on these areas of research in mathematics education. The teachers indicated their level of awareness of research findings in mathematics education on a 4-point scale as: no awareness, little awareness, moderate extent of awareness and awareness to a great extent, rated from 1 to 4 respectively. On this scale, a mean score of 2.5 has been taken as benchmark for decision on the level of awareness. Mean value above 2.5 is taken to be in favour of awareness of the aspect of research while mean below it is taken as low level of awareness. All the nine research areas in mathematics are well above 2.5. Item 5 which bothers on research findings in the area of mathematics textbook in mathematics teaching has the highest mean (3.03) while research area on school leadership and mathematics achievement has the lowest mean (2.72). It suffices to say that the mathematics teachers are moderately aware of the research areas in mathematics education. Before this study, the researcher had wrongly assumed that the mathematics teachers might not be very much aware of research findings in mathematics education to this extent. The study has proved this assertion wrong. The teachers are aware of research findings in mathematics education.

Research Question 2: To what extent do the Mathematics teachers implement research findings in Mathematics Education?

Table 2: Implementation of Research Findings in Mathematics Education

Research Findings in the area of:	Not Heard (0)	Heard but not Used (1)	Heard and Used (2)	Mean	Std. Dev.
Mathematics Testing and Assessment	6 (4.5)	13 (9.8)	104(78.8)	1.80	.511
Mathematics Teaching methods and strategies	5 (3.8)	14 (10.8)	102 (77.3)	1.80	.494
Students' learning approach in mathematics	6 (4.5)	19 (14.4)	97 (73,5)	1.75	.539
Instructional materials in the teaching of mathematics	3 (2.3)	14 (10.6)	106 (80.3)	1.84	.432
Mathematics Textbooks	3 (2.3)	16(12.1)	105 (79.5)	1.82	.443
Social Media and the teaching and learning of mathematics	7 (5.3)	34 (25.8)	82 (62.1)	1.61	.596
Classroom environment and mathematics learning	9 (6.8)	15 (11.4)	10 (76.5)	1.74	.584
Teachers' factors in the teaching and learning of mathematics	12 (9.1)	18 (13.6)	95 (72.0)	1.66	.647
Research reports on school leadership and mathematics achievement	10 (7.6)	35 (26.5)	79 (59.8)	1.56	.641

The fact that the teachers are aware of these areas of research findings does not tantamount to the same level of application in classroom practices. Thus, the justification for research question 2. Table 2 is an expression of the extent to which the mathematics teachers apply the research reports on these nine research areas in mathematics education. Their responses are on a 3-point scale rated as 0, 1 and 2. If they have not heard about this research findings (0), if they have heard about this research findings but they have not implemented it in their classroom teaching (1) and if they have heard and used the research findings in this area (2). A conclusion on an item is made by setting a benchmark of 1.25, so that mean above it will be taken as haven heard and used and below is not used. All the mean expressions on these items are quite above 1.5. The highest mean ((1.84) use of the research findings is on instructional materials in the teaching of mathematics (item4) while the least mean (1.56) is on research reports on school leadership and mathematics achievement. This could mean that research reports on the area of instructional materials is popular or that it is taken as of paramount importance. There are expressions on research findings that reported the importance of instructional materials in teaching. This includes the study of Afolabi and Adeleke (2010) which talks about the availability and utilisation of instructional materials in the teaching of mathematics in the secondary school.

H01: There is no significant difference between mathematics teachers' educational qualifications and their level of awareness of research findings in mathematics education.

Table 3: Qualifications in Mathematics and Awareness about Research Findings in Mathematics Education

	Sum of Squares	Df	Mean Square	F	Sig.
Between Group	13.170	26	.507	.835	.690
Within Group	45.497	75	.609		
Total	58.667	101			

The mathematics teachers' educational qualification was captured under 5 categories. There were NCE/OND holder (6; 4.5%), Bachelor Degree/HND holder (87; 65.9%), Masters Degree (26; 19.7%), Ph.D. (1; 0.8%), others (5, 3.8%). The report of ANOVA is shown in Table 3. The findings shows that there is no significant difference between mathematics teachers' educational qualifications and their level of awareness of research findings in mathematics education, (F=.835; p=.690> .05). The null hypothesis is not rejected. It is possible to expect a significant difference between these two variables due to diverse categories of qualifications that span over a high range of values, but this is not so. Experience could have been responsible for teachers' awareness even

if they are of a lower qualification. The possibilities of in-service trainings in workshops and seminars are avenues for exposure to research findings.

H02: There is no significant difference between teachers' qualifications in Mathematics and extent of implementation of research findings in mathematics education.

Table 4: ANOVA in Implementation of Research Findings in Mathematics Education

Research areas		Sum of Square	Df	Mean square	F	Sig
Mathematics Testing and Assessment	Between Groups	2.563	4	.641	2.485	.048
	Within Groups	29.141	113	.258		
	Total	31.703	117			
Mathematics Teaching methods and strategies	Between Groups	3.849	4	.962	4.241	.003
	Within Groups	25.186	111	.227		
	Total	29.034	115			
Students' learning approach in mathematics	Between Groups	1.487	4	.372	1.251	.294
	Within Groups	33.299	112	.297		
	Total	34.786	116			
Instructional materials in the teaching of mathematics	Between Groups	1.028	4	.257	1.345	.258
	Within Groups	21.582	113	.191		
	Total	22.61	117			
Mathematics Textbooks	Between Groups	2.968	4	.742	4.034	.004
	Within Groups	20.965	114	.184		
	Total	23.933	118			
Social Media and the teaching and learning of mathematics	Between Groups	5.428	4	1.357	4.140	.004
	Within Groups	37.046	113	.328		
	Total	42.475	117			
Classroom environment and Mathematics learning	Between Groups	3.036	4	.759	2.245	.068
	Within Groups	38.889	115	.338		
	Total	41.925	119			
Teachers' factors in the teaching and learning of mathematics	Between Groups	4.121	4	1.030	2.511	.046
	Within Groups	47.179	115	.410		
	Total	51.3	119			
Research reports on school leadership and mathematics achievement	Between Groups	3.473	4	.868	2.151	.079
	Within Groups	46.023	114	.404		
	Total	49.496	118			

This hypothesis became necessary because not all the teachers have qualification in mathematics even though they teach mathematics. Some of them may have physical or mathematical sciences or engineering qualifications. This is the

peculiarity of a developing country. It is because of dearth of professionally trained mathematics teachers. The nine areas of research in mathematics education have been tested (table 4). This has been done to observe which research area will make a significant difference with teachers' qualifications. The qualification examined here is specifically to those who studied mathematics in one or more of these levels; 1) NCE; (2) B.Sc.\B.A.; (3) B.Sc. (Ed)\B.A.(Ed); (4) Higher Degree;(5) others. The implementation of research findings in each area of research in mathematics education shown above have been tested against teachers' qualification in mathematics. There exist a significant difference between teachers' qualifications and the implementation of research findings in the area of1) mathematics teaching and testing (F=2.485, p=.048) 2)mathematics teaching methods and strategies, (F=4.241; p=.003), 3) mathematics textbooks (F=4.034; p=.004), 4) social media and the teaching and learning of mathematics (F=4.140; p=.004), 5) teacher factors in the teaching and learning of mathematics (F=2.511; p=.046). Research findings in the areas of student learning approach, instructional materials, classroom environment and research reports on school leadership had no significant difference with teachers' qualifications in mathematics.

It is concluded that the poor performances of our students in their final school certificate examination in mathematics are not caused by teachers' lack of awareness and inability to implement research findings in teaching. Other factors could have caused the poor performances. Some other factors outside research report implementation are responsible for their performance.

Further research should cover more likely barriers to research report implementation. Causes of students' poor performance should be researched further in other areas. Stakeholders in the scaffold of organization of schools must give attention to activities that can channel research findings to mathematics teachers. Mathematics teachers should be motivated to explore new strategies and given free hands to implement new ideas in their classroom practices.

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