



Assessing the Extent of Teaching and Research Gaps Emerging in Educational Administration

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Abstract

Higher education in Nigeria is faced with the challenge of ballooning gaps in research and teaching. This paper sets out to determine the causes of the widening teaching and research gaps. Three research questions and one null hypothesis were coined from three specific objectives stated for the study. This study employs a combination of qualitative and quantitative research with statements and outputs from primary and secondary sources to understand the widening gap in research and teaching among higher education institutions in Nigeria. The population of the study consist 188 educational administration experts from three Federal Universities (University of Calabar, 135, University of Uyo, 24 and University of Port Harcourt 29), all in the South-South Nigeria. Using 80% of the population, the sample size of 150 educational experts (male lecturers 57, female lecturers 93) was drawn through multi-stage procedures including-random sampling of the three from the six universities, purposively sampling of the respondents and clustering the sample size into male and female. The instrument for the study is titled “Extent of Teaching and Research Gaps Assessment Questionnaire”. The instrument was validated by three experts in the educational administration from Ignatius Ajuru, University of Education, Rivers State. The reliability of the instrument was ascertained through a trial test on 20 respondents who were not part of the study but possessed the same characteristic of those under the study. The Cronbach alpha technique used in determining the reliability index of 0.87, indicating a high reliability index. Mean and Standard deviation was used to answer the research questions and t-test in testing the null hypothesis. Findings reveal that causes of teaching gaps are poor technology adoption, poor facilities and chiefly, student diversity. The emerging research gaps is as a result of quality research resource gaps, inadequate funding, and poor ICT orientation among others. It was concluded that there is a great extent of research and teaching gaps emerging in higher education in Nigeria. It was recommended that Higher education institutions in Nigeria should adopt benchmark practices. That is, compare their activities with partner and similar institutions with the aim of identifying areas of improvement.

Keywords: educational administration, student diversity, technology application, Research-led teaching, lack of quality research

Introduction

The dwindling fortune of tertiary education in Nigeria is exacerbated by emerging teaching and research gaps. A major dilemma facing higher educational institutions in Nigeria is how to achieve quality outcomes for students in an increasingly internationalized and competitive environment. This outcome is based on emerging teaching and research needs. Tertiary institutions



have a responsibility of transferring of knowledge, both that of society and specific disciplines to students. This is achieved through employing relevant teaching and pedagogical methods in addition to the use of teaching support services that might come in the form of technology. Teaching has become complex, diverse and demanding. This is credited to the dynamic nature of society, the changing composition and volume of students entering higher education, widespread effect of technology, explosion of knowledge across the globe, the effects of globalization and the rise of nations with respect to economies and societies. Teaching, a once routine task, has evolved as classrooms change. Changes have affected both the opportunities and the challenges of teaching, as well as the attitudes, knowledge, and skills needed to prepare for a teaching career.

Teaching gap according to Stigler and Hiebert, (2009) refers to the difference between the kinds of teaching needed to achieve educational objectives as against the kinds of teaching found in most schools. The teaching gap becomes even more significant when one realizes that while other countries are continually improving their teaching approaches, it seems higher education in Nigeria has no system for improving teaching. Teaching gaps are not necessarily about gaps in teachers' competence, but a gap in teaching methods adopted by the teacher. All over the world, educators are battling with emerging issues shaping teaching. Changes in teaching according to Senge, Cambron-McCabe, Lucas, Smith and Dutton (2012) are the result of social and technological transformations. Some of the social changes placing pressure on higher education teachers and helping to widen the teaching gap are diversity in students and accountability in education.

With respect to diversity in students, Students have, of course, always been diverse. Whether in the past or in the present day, students learn at unique paces, show unique personalities, and learn in their own ways. In recent decades, the extents of diversity have increased. Now more than ever, teachers are likely to serve students from diverse language backgrounds, to serve more individuals with special educational needs, and to teach students either younger or older than in the past. As the diversity of students grows, so also their different educational needs differ. More educational needs from different students in one space or in some cases different spaces, piles pressure on the teacher to adapt teaching methods to suit these needs.

The diversity of modern classrooms in higher education is not limited to language, location, personalities or pedagogical skills. Another recent change has been the age differences in participants. It is quite common to find 15 and 16 year olds in tertiary institutions across Nigeria. While the age at which students are gaining admission into Universities has fallen drastically, there is still a large cohort of older students in higher education. The obvious differences in maturity between younger and older students lead most teachers of the very young to use flexible, open-ended plans and teaching strategies, and to develop more personal or family-like relationships with their young "students" than typical with older students (Bredenkamp & Copple, 2007). Talking to 16 year olds is quite different to talking to 28 year old students all in the same class. The challenge then arises, how does a teacher hold a conversation with these diverse sets of students, given their possible different interpretations of events, self-concept and self-esteem?

The other end of the age conundrum has to do with the issue of lifelong learning, an emerging issue in teaching. As societies evolve and technology, with its short lifecycle forcing people to learn new skills, older students are also returning to class to further acquire skills. The teachers of adult students have to adjust their instructional strategies and relationships with students so as to challenge and respect their special strengths and constraints as adults. The



students' maturity often means that they have had life experiences that enhance and motivate their learning. But it may also mean that they have significant personal responsibilities—such as parenting or a full-time job—which compete for study time, and that make them impatient with teaching that is irrelevant to their personal goals or needs (Bash, 2005). The poor response of higher education to lifelong learning is creating teaching gaps. Inadequate research into emerging inclusive classrooms is leading to ineffective teaching.

One other reason for emerging teaching gaps in higher education is accountability in education. In recent years, the public and its leaders have increasingly expected teachers and students to be accountable for their work, meaning that schools and teachers are held responsible for implementing particular curricula and goals, and that students are held responsible for learning particular knowledge. However, it is apparent that teaching is most responsible for learning. Public accountability calls for more professionalism by teachers. This is driving the need for feedback mechanisms on the effectiveness of teachers. Issues arising from public accountability as regards teaching gaps borders on lecturers' commitment to teaching, instructional skills applied in class as well as subject matter knowledge and skills. Thus, personal attributes of the teacher, to some extent, has an effect on teaching gaps experienced (Mertler, 2006). Another essential factor contributing to teaching gaps is technology and its integration into instruction.

It could be observed that the introducing of technology into the classroom is essential, as it allows students to apply classroom concepts to daily life. A large part of daily life revolves around technology. Students today are apt at using technology and its tools such as laptops, smartphones and tablets. They are already second nature to them. Taking technology out of the learning equation would be removing an integral part of the students' abilities. For most teachers though, "technology in classroom" with respect to teaching, connotes the application computers, the internet, digital technologies as resources for teaching and learning. Evidently, as pointed out by Cuban (2001) instructional technologies have greatly increased the quality, quantity and range of information available to students as well as providing tools that make learning easier and more accessible to students. Technology has also made it possible to reach students and offer learning in conditions that decades ago would have been unthinkable.

Given the ongoing dynamic and rapidly changing environment, Universities and Tertiary institutions are just as challenged as businesses and other entities to keep pace with the myriad of technological changes and development affecting them (Senge, Cambron-McCabe, Lucas, Smith & Dutton 2012). The challenge is how to integrate these technologies into the classroom to supplement learning and also to bring learning closer to the tech savvy young learners of today. While the urge to embark on e-learning is high in Africa, it is still a dream because of weak ICT infrastructure, content development, administration, funding and of course, lack of alignment between technology, curriculum and instruction. All these are leading to teaching gaps in higher education in Nigeria.

Furthermore, technology also creates new problems for teaching. It costs money to equip classrooms and schools fully: often that money is scarce, and may therefore mean depriving students of other valuable resources or creating loggerheads between educational administrators and funding agencies, such as governments. Other challenges are less tangible. In using the Internet, for example, students need help in sorting out trustworthy information or websites from the "fluff," websites that are unreliable or even damaging. Providing this help can sometimes be



challenging even for experienced teachers. A teacher, therefore, will need not only to assess what technologies are possible in a particular classroom, but also what will actually be assisted by new technologies (Cuban, 2001). This, in effect influences teaching and creates a teaching gap as teachers grapple with sorting out information that affects learning while helping the students become good digital natives. One other area with emerging gap is in quality research outputs by higher education in Nigeria.

Research is the keystone of most Universities. It drives much of the work of the faculty, and is a major determinant of the respect and rewards faculty members are afforded by their peers and institutions. An essential requirement and objective of tertiary institutions is their involvement and championing of quality research aimed at national development. Research plays a pivotal role in the systematic development of new knowledge and is central to the effectiveness of all higher education. One of the core missions of higher education is to advance, create and disseminate knowledge through research and provide service to the community, constant supply of qualified young researchers to assist societies in cultural, social and economic development. Through research, higher education contributes to innovation for mobilization of resources (Njuguna & Itegi, 2013). A large gap remains in research capacity between Africa and the rest of the world in all scientific disciplines. The lack of quality research outputs seems a perennial issue in Nigerian higher education system. The dearth of quality research and the widening research gap not just between Nigeria and the west, but between Nigeria and other emerging African countries and this seems to be a source of worry for stakeholders. The beauty of academic is to discover new knowledge and be free to share this knowledge with students, colleagues as well as applying this new knowledge to everyday living to influence practice. Most technologies used in Nigeria are from outside. Likewise, most educational interventions in Nigeria are not homegrown but adopted or adapted from outside the country. The failure to carry out quality research is showing in the quality of graduates and by extension, the quality of the Nigerian society. Nigerian as a country needs to start harnessing local resources and developing local technology through quality research to meet local challenges.

It is likely that the size and causes of the teaching–research gap vary based on the relative emphasis on teaching versus research across higher education institutions in Nigeria. If the emphasis is on teaching alone, then research will suffer. However, if the emphasis is on research, then teaching is likely to be rekindled, as the results of research are made available to students through teaching (Burke, & Rau 2010). Yet any gap can be narrowed to some extent. Greater integration of the research and teaching roles of lecturers can produce a heightened student awareness and value of research at all levels of educational management, enhance evidence-based educational administration and management practice in the workplace and facilitate the creation of more useful educational research.

Research-led teaching involves exploiting the teacher's own research to benefit student learning and outcomes (Trowler & Wareham, 2008). It enables a deep understanding of the teaching material; it allows students to develop their intellectual capabilities by experiencing independent and/or collaborative research and by letting the students to become creative and critical thinker; it increases students' engagement in their studies and help them become independent learner. Additionally, exposing students to real problems enhances their skills for employment and shape their future interests.



As reported by researchers (Kuh & Bridges, 2010), it is important to realize that students are not only expected to acquire knowledge, but they should also learn skills such as critical thinking and intellectual flexibility. New forms open technologies are becoming more common in higher education, and it becomes crucial to also enable flexible pedagogies to promote learner agency, autonomy, and self-regulation (Kaatrakoski, Littlejohn, & Hood, 2017). Despite such benefits, research and teaching activities are still secluded and experienced by academic staffs as distinctive. The issue first originates in higher education systems that often separate teaching and learning activities (Brew, 2012). It becomes therefore a myth for academics that both of these activities can be intertwined. The problem also comes from that there are limited studies that empirically demonstrate a correlation between teaching and research (Brennan, Cusack, Delahunt, Kuznesof, & Donnelly, 2017). Additionally, the link between research and teaching is shaped by different disciplinary contexts because each discipline of science have different views about research as well as different methodologies that impact how the teaching and researching materials are delivered

Statement of the Problem

Research and teaching are two major objectives of higher education. However, a lot of changes to the composition and nature of classrooms is forcing modifications to the practice of teaching, while societal, global, economic and technological changes are demanding changes in the quality of research output from higher educational institutions in Nigeria. The lackluster response of higher education in Nigeria to these sweeping changes is creating gaps in both research and teaching responsibilities. Students seem to be responding faster to technological applications than teachers are responding to interactional technologies applied or adapted for classroom or further instructions. The diversity of students in terms of culture, age and educational needs is also piling pressure on teachers to evolve teaching skills in order to carry all the students along during instruction. Teachers are beginning to fail or not catching up with the changes in the classrooms, thereby creating teaching gaps. Increased student population, lifelong learning, technology and increased demand for accountability are making clear that teaching gaps exist in higher education. Furthermore, the quality of research going on in higher education and the demand for educational solutions to the challenges bedeviling the Nigerian society shows the stark contrast of the contribution of research in other countries to national development and what is going on in Nigerian higher education. There is a widening research gap in all fields of study in Nigeria. Research and teaching gaps are not always about the shortcomings of the teacher, but an indication of underlying weakness is rooted in systemic failures, policy summersault, weak institutional support systems and inadequate government interventions.

Purpose of the Study

The purpose of the study is to determine the causes of teaching and research gaps in higher educational institutions in Nigeria, specifically, the study

1. Determines the causes of teaching gaps in in higher educational institutions in Nigeria.
2. Determines the causes of research gaps in in higher educational institutions in Nigeria.
3. Determine the extent of research gaps in higher educational institutions in Nigeria

Research Questions



The following research questions were stated for the study

1. What are the causes of teaching gaps in in higher educational institutions in Nigeria?
2. What are the causes of research gaps in in higher educational institutions in Nigeria?
3. What is the extent of research gaps in higher educational institutions in Nigeria?

Research Hypothesis

There is no significant difference in the mean responses of experts (Polytechnics and university lecturers) on the extent of research gaps in higher educational institutions in Nigeria

Methodology

This study employs a combination of qualitative and quantitative research with statements and outputs from primary and secondary sources to understand the widening gap in research and teaching among higher education institutions in Nigeria. The qualitative approach entailed a review of secondary sources and literature on causes of research and teaching gaps in higher education. This led to the conceptualization and representation of the underlying causes.

The population of the study consist 188 educational administration experts from three Federal Universities (University of Calabar, 135, University of Uyo, 24 and University of Port Harcourt 29), all in the South-South Nigeria. Using 80% of the population, the sample size of 150 educational experts (male lecturers 57, female lecturers 93) was drawn through multi-stages procedures including-random sampling of the three from the six universities, purposively sampling of the respondents and clustering the sample size into male and female. The instrument for the study is titled “Extent of Teaching and Research Gaps Assessment Questionnaire”. The instrument was validated by one expert in the Department of Educational Foundations and Management, and two experts in the Department of Curriculum Administration and Management all from Ignatius Ajuru, University of Education, and Rivers State. The reliability of the instrument was ascertained through a trial test on 20 respondents who were not part of the study but seems to possess the same characteristic of those under the study. The Cronbach alpha technique used in determining the reliability index of 0.87, indicating a high reliability index. Mean and Standard deviation was used to answer the research questions while t-test was used in testing the null hypothesis.

Presentation of Findings

Research Question 1: What are the causes of teaching gaps in in higher educational institutions in Nigeria?

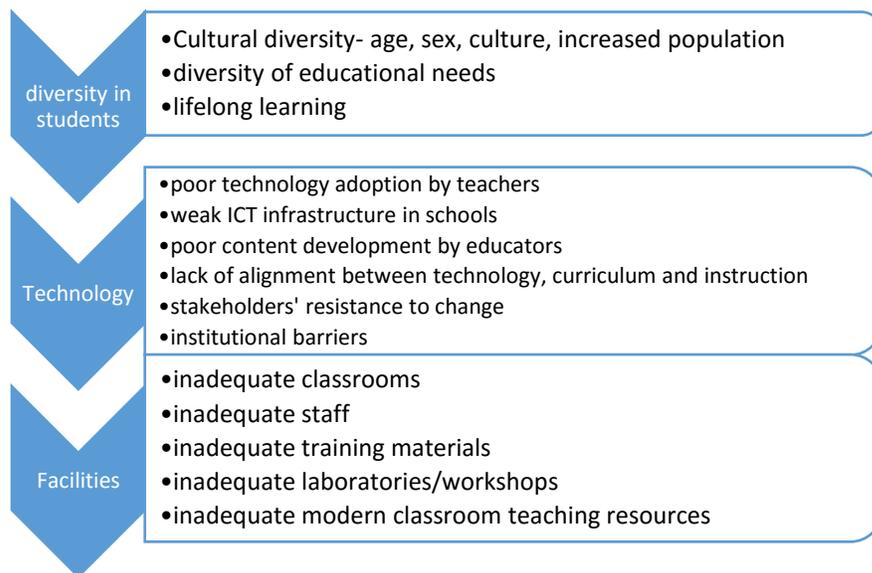


Figure 1: Causes of Teaching Gaps in Nigerian Higher Education

Figure 1 gives a summary of the causes of teaching gaps in higher education. The result of the qualitative analysis identifies three (3) broad areas of concern. These are student diversity, technology and facilities. Under student diversity, cultural diversity in terms of student composition and increased enrollment, sex, widening age differentials as well as the issue of lifelong learning are contributing to the observed teaching gaps. More so, teachers now have to cater for more diverse students with different educational needs, making teaching more difficult and demanding.

Under technology, it is found that poor technology adoption by teachers is leading to teaching gaps. This is in addition to weak ICT infrastructure, poor ICT- content development by educators, lack of alignment between technology, curriculum and instruction as well as institutional barriers limiting access to ICT for instructional purposes. Furthermore, poor facilities are also leading to teaching gaps.

Research Question 2: What are the causes of research gaps in higher educational institutions in Nigeria?

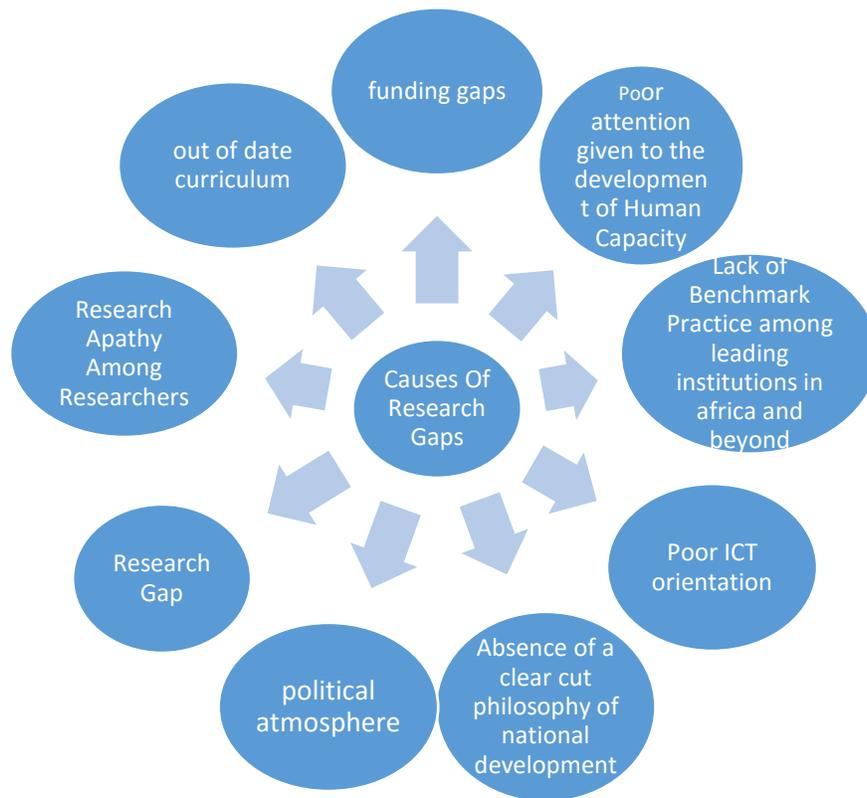


Figure 2: Causes of Teaching Gaps in Nigerian Higher Education

Figure 2, identifies through qualitative research the causes of research gaps noticed in Nigerian higher education institutions. The study identified the following as the causes of research gaps- funding gaps, resource gaps, poor attention given to the development of human capacity, poor ICT orientation, absence of a clear cut philosophy of national development, research apathy among researchers, out of date curriculum, lack of benchmark practice among leading institutions in Africa and beyond as well as the political climate.

Research Question 3: What is the extent of research gaps in higher educational institutions in Nigeria?

Table 1: summary of descriptive statistics of extent of research gaps in higher educational institutions in Nigeria

| S/N | Extent of research gaps | \bar{X} | SD | Remarks |
|-----|--------------------------------------|-----------|------|---------|
| 1 | Huge knowledge gaps in disciplines | 3.83 | 1.11 | VGE |
| 2 | Huge research infrastructure deficit | 3.74 | 1.09 | VGE |



| | | | | |
|----|---|-------------|------|------------|
| 3 | Low productivity in the society/economy | 3.87 | 1.15 | VGE |
| 4 | Poor research output by higher institutions | 3.71 | 1.34 | VGE |
| 5 | Low participation of Nigerian academia on quality researches internationally | 3.79 | 1.32 | VGE |
| 6 | Poor research culture among researchers | 3.78 | 1.33 | VGE |
| 7 | Low industry-academia partnerships | 3.73 | 1.34 | VGE |
| 8 | Poor relevance of research findings to practical societal challenges | 3.87 | 1.32 | VGE |
| 9 | Poor implementation of research findings by governments | 3.76 | 1.24 | VGE |
| 10 | High dependence on foreign technology/ideas/research for national development | 3.87 | 1.15 | VGE |
| | Cumulative Mean | 3.77 | | VGE |

VGE* = *Very Great Extent*

Table 1 shows the summary of the mean and standard deviation responses of experts on the extent of research gaps. The result shows that all the items have mean responses above 3.7, indicating very great extent. The cumulative mean is 3.77. This indicates that there is a great extent of research gaps in tertiary institutions in Nigeria.

Null Hypothesis Testing

Null Hypothesis 1: There is no significant difference in the mean responses of experts (Polytechnics and university lecturers) on the extent of research gaps in higher educational institutions in Nigeria.

Table 2: t-test Analysis of significant difference in the mean responses of experts (Polytechnics and university lecturers) on the extent of research gaps in higher educational institutions in Nigeria

| Variable | N | \bar{X} | SD | df | tcal | Sig of t (p-value) | Decision |
|------------------|----|-----------|------|-----|------|--------------------|----------|
| Male Lecturers | 57 | 3.79 | 1.26 | 148 | 0.49 | 0.63 | NS |
| Female Lecturers | 93 | 3.61 | 1.44 | | | | |

not significant @ $p < .05$

Table 2 gives the summary of the t-test analysis for the significant difference in the mean responses of experts (Polytechnics and university lecturers) on the extent of research gaps in higher educational institutions. The result gives a calculated t-value of 0.49. At .05 alpha level, the probability value, that is, the p-value is 0.63. The probability value is higher than the alpha value, $p < .05$, hence, the result is statistically not significant. Thus, there is no significant difference in the mean responses of experts (male and female university lecturers) on the extent of research gaps in higher educational institutions in Nigeria

Discussion of Findings

Analysis of the research questions identifies the causes of teaching and research gaps in higher institutions in Nigeria. The identified causes of teaching gaps are student diversity, which



includes differences in age and educational needs, higher population, lifelong learning and cultural diversity. The other cause of teaching gaps is inadequate technology and supporting facilities. The research gaps are caused by funding gaps, resource gaps, poor attention given to the development of human capacity, poor ICT orientation, absence of a clear cut philosophy of national development, Research apathy among researchers, out of date curriculum, lack of benchmark practice among leading institutions in Africa and beyond as well as the political climate. This finding is in line with Senge, et al (2012) which found that teaching gaps are not necessarily about the shortcomings of the teacher, but a reflection of changes within the society and an inadequate response by the training institutions. They identified societal and technological factors as being the key drivers to change in teaching and the failure of higher education to respond to these as being the key reason for identified teaching gaps. When a school admits more students, facilities ought to be expanded accordingly to accommodate the increased students. As students' needs changes, so also should the teacher be responsive to inclusive classrooms. Likewise, as the world goes digital, the adoption and integration of digital technology for personal, professional and instructional purposes should be expanded. This failure is leading to teaching gaps.

The proper environment for research is not yet available in Nigeria. The finding of the study is also corroborated by Chukwu, Malachy, Obikeguna, Arionu, Agbawodikeizu, and Agwu (2016) which identified several causes of research gaps. These included funding gaps, resource gaps, poor attention given to the development of human capacity, poor ICT orientation, absence of a clear cut philosophy of national development, Research apathy among researchers, out of date curriculum.

The extent of research gaps is evident in the quantity and quality of research findings implemented and products developed. This is very scanty. Furthermore, linkages between industries and higher education are hard to come by, showing the disconnect and lack of synergy between them. This finding is supported by Njuguna and Itegi, (2013) which averred that nations in the world that have attained a reasonable degree of development did so through involvement in practical research and development. Those who aspire to attain similar height are nations that have identified and embraced the tenets of qualitative education, research and development as well as making their services accessible to its people.

Conclusion

It is concluded that the problem of teaching and research gaps observed in higher education in Nigeria is not just about the teaching and research strategies of academics, but one brought about by social, technological and institutional changes. To some extent, globalization is also contributing to the increased changes affecting education in Nigeria. There is a looming crisis of teaching and research gaps and the extent to which this gap exists is very great when compared to higher institutions of other nations. For Nigeria to meet its future developmental plans and goals, social research must be an integral part of its developmental process.

Recommendations

The following recommendations are made



1. Higher education institutions in Nigeria should adopt benchmark practice. That is, compare their activities with partner and similar institutions with the aim of identifying areas of improvement and methods of improvement in terms of teaching and research.
2. The culture of research for social and impactful development should be inculcated in young researchers and this “publish or perish” mentality worked on.
3. Adequate facilities for both teaching and research should be provided for by the relevant government and school authorities to enhance good teaching and quality research.
4. Key research areas for intervention should be identified by educational authorities and members of staff male and female admonished to pursue research along those lines

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