Application of Research Findings to Classroom Teaching and Learning in Selected Nigerian Tertiary Institutions

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Abstract

The need to improve the quality of tertiary institutions graduates through the application of research findings for classroom teaching and learning prompted this study, which investigated the application of research findings to classroom teaching and learning in Nigerian tertiary institutions. The study population consists of all academic staff members in Nigerian tertiary institutions. However, through the use of a multi-stage sampling procedure, a total of 305 respondents were sampled from three geo-political zones of Nigeria (North-Central, South-West, & South-East). Data were collected through the use of a questionnaire tagged "Research and Publications Effectiveness Questionnaire" (RPEQ). Descriptive statistics were used to answer the questions raised, while the Pearson Product Moment Correlation was employed to test the hypotheses at 0.05 alpha level. The study found that academic staff research/publications effectiveness was low; while the application of research findings in classroom teaching was high, and students' responsiveness was also high when research findings were applied to classroom situations. It was recommended that successful senior academic researchers be made to mentor upcoming academics, and these being academic researchers should be further encouraged to apply research findings to enrich their classroom teaching. Adjunct staff with field experiences should also be encouraged to deploy the same towards adequately preparing students for the world of work.

Keywords: Classroom teaching and learning, research application, tertiary institutions

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Introduction

The Nigerian educational system had, for a long time, been faced with the challenge of achieving maximum output and had undergone varying changes over the years. Some of the changes had to do with the academic calendar, the curriculum content, the review of the educational structure and consideration of the qualification of personnel (Ajagun, 2019; Gusau, 2008). All these were meant to improve the quality of education in the country. To further achieve the needed improvement in the quality of education at the tertiary education level, the government deliberately puts in place the means to employ only competent individuals at that level. In addition to the enhanced salary package for academic staff of the institutions, the government also approved for these groups of staff; journal, research and publications allowances. This is to promote research and publication of findings, which is geared towards achieving the goals of tertiary education.

These goals include a) contribute to national development through high-level relevant manpower training; b) develop and inculcate proper values for the survival of the individual and society; c) develop the intellectual capability of individuals to understand and appreciate their local and external environment; d) acquire both physical and intellectual skills which will enable individuals to be self-reliant and useful members of the society; e) promote and encourage scholarship and community service; f) forge and cement national unity; and g) promote national and international understanding and interaction (FRN, 2004). Among other things, these goals are to be pursued through teaching, research and development, and virile staff development programmes.

In the National Policy on Education (FRN, 2004), it is stated that university research should be relevant to the nation's development goals and be widely disseminated for the good of the larger society. It is also stated that university teaching should seek to inculcate community spirit in the students through projects and action research. In pursuant of the above and in-line with the government' desire to advance knowledge through continuous academic growth, attendance at conferences, seminars, or workshops alongside the publication of articles in academic/educational journals became part of the promotion conditions in the nation's tertiary institutions with the introduction of the Unified Salary Scale (USS) in 1993. This was re-emphasized with the introduction of the Elongated Unified Salary Scale (EUSS), the Harmonized Tertiary Institutions Salary Scale (HATISS) and the Consolidated University Academic Staff Salary (CONUASS). All these were meant to improve the quality of education in the nation's tertiary institutions, but field research has shown that the desired output has not been achieved as many

academic staff see the research/learned society allowance as packages meant to give them an edge over teachers at the other levels of education. This is more evident in the Polytechnics and Colleges of Education (Olorisade, 2008). The basic tasks of academic staff in tertiary institutions are threefold: teaching, research and community service. The National Universities Commission in its 2005 ranking of research output in Nigerian Universities, as measured by the number of scholarly research articles published in prestigious international academic journals and the number of citations in the scholarly index, found that only 20 universities scored between 10 and 200 in their research output (World Education News & Review, 2006). Again, it has been observed that the number of scientific publications in Nigeria dropped from 1,062 in 1981 to 711 in 1995 (Taskforce, 2000).

Studies on attitudes and perceptions of academic staff towards research have been extensively carried out (Abu Bakar & Tahir, 2009; Sterner, 1999; Tang & Chamberlain, 1997). Olorisade (2008) reported that some academic staff in Nigerian Colleges of Education hurriedly carry out research activities, lacking the depth of knowledge; and sometimes alter some aspects of an already published work for a new article meant for publication in another journal. Burke and Rau (2010) emphasised the need to communicate research findings beyond its confinement to published academic studies. Jenkins and Zetter (2003) opined that instructors and students need to work together in an inquiring and exploring fashion for faculty to facilitate knowledge exchange. The present study differs from the previous ones, as it seeks to evaluate academic staff research effectiveness and its effects on institutional teaching and learning. The perceived poor attitude of academic staff towards carrying out research studies and publishing in reputable academic journals, as well as the observed low use of research findings in classroom teaching and learning informed the decision to undertake this research work. The aim is to establish the true situation of things in the effort to stimulate interests in the continuous academic growth of academic staff in tertiary institutions. This is with a view to improving teaching and learning in the nation's tertiary institutions, through the use of research findings for classroom teaching and learning.

Statement of the Problem

Research and publications in Nigerian tertiary institutions is an important requirement for the advancement of academic staff on the job, and it is the main criteria for ranking world-class universities; but how many of the research findings are used in classroom teaching and learning? Again, Nigerian tertiary institutions have been severally criticized for turning out poor quality graduates whom many employers of labour consider incompetent and unemployable.

Earlier studies had focused on research effectiveness of academic staff, determining their competency level at engaging in research, and publications of findings (Olorisade, 2008), as well as staff productivity in research activities (Bassey et al., 2006). The perceptions and attitudes of academic staff towards research were the focus of Sterner (1999); while the relationship between teaching and research was considered by Brown (2005). These earlier studies revealed academic staff attitudes to research engagement, their competency levels in carrying out research studies, and how teaching relates to research. Thus, earlier studies left out the application of research outputs on teaching and learning in Nigerian tertiary institutions, which is the focus of the present study.

Purpose of the Study

The main purpose of this study was to determine the extent of the application of research findings to classroom teaching and learning process in selected Nigerian tertiary institutions. The study was also designed to assess the level of academic staff research and publications effectiveness in Nigerian tertiary institutions, and the effects of classroom application of research findings on students' responsiveness.

Research Questions

The study was guided by the following research questions:

1. What are the level of academic staff research and publication outputs in selected Nigerian tertiary institutions?
2. To what extent do academic staff in selected Nigerian tertiary institutions apply research findings to classroom teaching and learning?
3. To what extent is there a significant relationship between academic staff research/publications effectiveness and the application of research findings to classroom teaching and learning?

Research Hypotheses

The following null hypotheses were stated:

Ho_1: There is no significant relationship between academic staff research/publications effectiveness and the application of research findings to classroom teaching and learning.

Ho_2: There is no significant relationship between academic staff application of research findings and students' responsiveness.

Significance of the Study

The findings of this study will stimulate increased students learning and the use of evidence-based practices, which is hoped to improve the quality of graduates from Nigerian tertiary institutions. The study will provide a research-based contribution to the discourse on academic staff research and publications effectiveness and will reveal the need for the application of research findings in classroom teaching and learning. It also has implications for government and her agencies on the need to have a clearinghouse to harness researches for appropriate use. This will help to speed up the desired national development.

Literature Review

Academic staff research effectiveness has been a subject of discourse for some time now. This has come to limelight as a result of identified lapses in the research involvement and competencies of academic staff in the Nigerian tertiary institutions. At the ETF capacity building workshop for lecturers of tertiary institutions (2010), it was noted that young academics were not observant and sensitive enough to happenings in the education process, nor were they active participants in educational workshops/seminars/symposia, to detect problems in the educational system. This assertion became necessary as it was observed that the number of scientific publications in Nigeria dropped from 1062 in 1981 to 711 in 1995 (Taskforce, 2000); while Chiemeke, Longe and Shaib (2009) noted that academic staff involved in research activities had dropped drastically, with observable low research output. The lapse was assumed to contribute to the poor execution of solutions proffered from earlier research studies, resulting in the poor delivery of information in classrooms, which negatively affects classroom teaching and learning, and is taught to result in poor quality graduates from the institutions.

The three primary tasks of academic staff in tertiary institutions are teaching, research and community service. However, it had been observed that academic staff have not truly measured up to their responsibilities in this respect. Olorisade (2008) reported that some academic staff in Colleges of Education in Nigeria engage in research activities basically to fulfill the conditionality for and to scale promotion hurdles. According to Yusuf (2005), research publication is a major index of academic staff quality and the determinant of advancement. The involvement in and the quality of academic staff research output cannot, therefore, be over-emphasized, as quality research by academic staff contributes to genuine indigenous and sustainable development (Bassey, Akuegwu, Udida & Udey, 2006).

From the observations of researchers (Burke & Rau, 2010; Zetter, 2003; Chiemeke et al., 2009), most research findings/results are mostly left on the pages of journals, in books and on bookshelves, with no substantial effort at utilizing such results for the benefits of the larger society. This had contributed to the low level of development in Nigeria. According to Burke and Rau (2010), the communication of research findings need not be confined to published academic studies. They observed that both faculty with extensive consulting and applied experiences as well as adjunct instructors with rich work experience could share findings from field projects, corporate interventions, corporate briefs they have written, or from a systematic reflection of anecdotal evidence. Jenkins and Zetter (2003) opined that instructors and students need to work together in an inquiring and exploring fashion, for faculty to facilitate knowledge exchange.

Chiemeke et al. (2009), reported that employers of labor had questioned the competence of Nigerian university and polytechnic graduates. Their findings illustrated the wide gap that exists between what is taught in institutions and what the world of work requires. This is, therefore, a call out of Nigeria's higher education institutions on their failure to provide graduates with the necessary skills for success in the world of work. According to Sabo (2005), knowledge accumulation places the advanced countries as the top developed economies by their control of social and human capital formation, economic development and their high standard of living. It is, therefore, not enough to publish research findings, but research output and findings must have an impact on industrial, commercial and administrative processes (Chiemeke et al., 2009). The research-practice gap had been acknowledged by scholars (Bennis & O'Toole, 2005; Mintzberg, 2004; Pfeffer & Fong, 2002; Rynes, 2007; Rynes, Bartunek & Daft, 2001), who agreed with Chiemeke et al. (2009) that strengthening of the teaching-research relationship holds vast potentials to deliver the skills needed to understand research and to instill values that recognize the validity of the research.

Method

The study employed a descriptive survey research design. The study was carried out in three out of the six geo-political zones of Nigeria, with the population consisting of all academic staff members in Nigerian universities, polytechnics and college of education. Eighteen universities, eleven polytechnics and eight colleges of education were sampled, with all academic staff members of these institutions as the target population. Multi-stage and random sampling techniques were adopted in selecting the participants from the institutions. A total of 611

questionnaires were distributed, and 305 usable and 107 unusable copies were returned, translating into 67.4% response rate. The questionnaire had four parts. Section (A) contained demographic variables and the research/publications information. Section (B) contained questions relating to conference attendance, publications, and sponsorship. Section C had questions relating to web visits, collaboration, and pressure of lecturing, as well as factors encouraging research, obstacles to research and the use of research. Section D sought information on the frequency of application of research findings, students' access to research findings, effects of the use of research findings on students' classroom responsiveness.

The reliability coefficient of the questionnaire was 0.76, indicating that the instrument had an acceptable degree of reliability. Descriptive statistics were used to determine the level of academic staff research/publications effectiveness, application of research findings in classrooms, and the level of students' responsiveness in classroom teaching and learning. The Pearson Product Moment Correlation (r) was employed to test the null hypotheses.

Results

Of the 305 academic staff that participated in this study, 101 (33.1%) were from the universities, 96 (31.5%) from the polytechnics, and 108 (35.4%) from the colleges of education in the six geo-political zones of Nigeria. The results are reported below based on the research questions.

Question One: What are the level of academic staff research and publication outputs in selected Nigerian tertiary institutions?

The results of the analysis revealed a 45.1% on the level of research and publication outputs by the academic staff in the selected Nigerian tertiary institutions. This is considered to be a bit low, and it also revealed a poor research output by academic staff in the selected tertiary institutions. The standard deviation was 14.5, which indicated a wide spread of the scores on the research/publication effectiveness of academic staff.

Question Two: To what extent do academic staff in selected Nigerian tertiary institutions apply research findings to classroom teaching and learning?

The results of the analysis revealed a 77.6% of application of research findings to classroom teaching and learning (77.6%). This showed that the application of

research findings in the institutions was generally high. The standard deviation (6.64) indicated a certain amount of spread in the scores on the application of research findings.

Question Three: To what extent is there a significant relationship between academic staff research/publications effectiveness and the application of research findings to classroom teaching and learning?

The result showed that the mean value for students' responsiveness was 66.9%. This revealed that the perceived responsiveness was generally high in all the selected tertiary institutions. At 8.99, the standard deviation value revealed a spread of the scores for students' responsiveness in the classroom. Furthermore, the Pearson Product Moment Correlation (*r*) was employed to test the null hypotheses.

Hypothesis 1: There is no significant relationship between academic staff research/publications effectiveness and application of research findings in classroom teaching and learning.

Table 1: Correlation of Research/Publication Effectiveness and Application of Findings

Variables	N	M	SD	*r*-cal	Critical *r*
Res/Pub. Effectiveness	305	45.1	14.5	0.439	0.113
Application of Res. Findings	305	77.6	6.64		

The result of the correlation analysis in Table 1 showed that the calculated *r* (0.439) was greater than the critical value (0.113); therefore, the hypothesis was rejected. This implies that there was a moderate relationship between academic staff research/publications effectiveness and the application of research findings in classrooms. Although research output was low; there was evidence of the application of research findings for classroom use.

Hypothesis 2: There is no significant relationship between academic staff application of research findings and students' responsiveness.

As showed in Table 2, there was a weak significant relationship between the applications of research findings and students' responsiveness. The calculated *r* (0.224) was greater than the critical value (0.113); therefore, the hypothesis was rejected.

Table 2: Correlation of Research Applications and Students' Responsiveness

Variables	N	Mean	SD	*r*-cal	Critical *r*	Decision
Application of research findings	305	77.6	6.64	0.224	0.113	Ho rejected
Students' Responsiveness	305	2.16	.65			

Discussion

The results of research question one revealed that research/publications effectiveness of academic staff in the selected Nigerian tertiary institutions was low (45.11%). This is a poor reflection of a major task of institutional staff, with respect to research activities. This may have resulted in the slow pace of national development, as the dissemination of new findings was low, and knowledge dissemination may be retarded. The low effectiveness in research activities of academic staff in Nigerian tertiary institutions agrees with the World Education News and Reviews (2006), which observed a low research output from Nigerian Universities. It is also in tandem with the submission of Abu Bakar and Tahir (2009), who stated that academic staff' involvement in research activities was unsatisfactory. In the opinions of Chiemeke et al. (2009), unstable funding results in poorly equipped laboratories, outdated libraries, crumbling academic facilities and low research output. Responses in the questionnaire catalogued many factors which were considered as obstacles to research activities of academic staff in tertiary institutions. Some of these include; heavy workload, limited access to the internet, unavailability of equipment and required materials, inadequate skills and exposure, insufficient power supply, inability to access required data, academic stress, among many others.

The results of research question two revealed a high-level application of research findings for classroom teaching and learning (77.63%), wherein lecturers used research findings in their classroom teaching, encouraged students to access research findings to complement classwork, and promoted students' responsiveness through practical exposure to research findings. This is encouraging as it is believed to contribute to improving the educational experiences of students, through the simplification of lecture content for easy assimilation. This is in agreement with the submission of Burke and Rau (2010) that the ability to integrate research and teaching successfully is arguably the essence of what it means to excel as a university professor. Fukami (2007) added that the concept of scholarly teaching is such that faculty stay abreast of and share the latest ideas in their discipline, are reflective and pursue evidence gathering.

The results of research question three showed that students' responsiveness was high (66.9%). This is expected to be so, because the application of research findings help to shed more light on facts taught in the classrooms, thus making real the presentation of information to students. Kaplan (1989) observed that teachers have a responsibility to introduce students to relevant, newly developed ideas if the future practice is not going to be just a repetition or simple extrapolation of the past and present. This agrees with the findings of Burke and Rau (2010). They opined that the incorporation of existing research evidence in teaching, help to set the stage for increased students' learning and use of evidence-based practices. The application of research findings intellectually stimulates students to become better-equipped individuals entering the workforce.

The result of the correlation analysis in Table 1 showed that the calculated *r* (0.439) was greater than the critical value (0.113); therefore, the hypothesis was rejected. This implied that there was a moderate relationship between academic staff research/publications effectiveness and the application of research findings in classrooms. This suggests that academic staff apply their research findings to boost the information disseminated in classrooms. This may be to drive home some points, elaborate on issues and sometimes to show the practicality of concepts or theories. This is expected to result in the improvement of classroom teaching and learning. The finding agrees with Kaplan's (1989) submission that teachers have a responsibility to introduce students to relevant, newly developed ideas if future practices are not to be just a repetition of a simple extrapolation of the past and present.

Table 2 result showed that there was a weak significant relationship between the applications of research findings and students' responsiveness. This suggests that when academic staff applies research outcomes to enrich classroom discussions, students were perceived to show more interest in what they were being taught and were enthusiastic. This is expected to enhance students understanding of facts being taught, in order to enhance their grasp of information and improve their performances. The findings agree with Burke and Rau (2010), who opined that by incorporating existing research evidence in classroom teaching, we help set the stage for an increase in students' learning and the use of evidence-based practices.

Conclusion

The study established a significant relationship among research/publications effectiveness, applications of research findings and students' responsiveness in Nigerian tertiary institutions. It revealed that the effectiveness of academic staff in

research and publications was important if research findings will be applied to classroom situation and students' responsiveness is to be enhanced. However, academic staff research/publications effectiveness was observed to be low; while there were established differences in the research/publications effectiveness of academic staff in universities, polytechnics and colleges of education. Again, the application of research findings was high; and students' responsiveness was also high when research findings were applied to classroom situations.

The study also revealed that academic staff research/publications effectiveness had significant relationships with the application of research findings, and there was a significant relationship between the applications of research findings with students' responsiveness.

Recommendations

Based on the findings, the following recommendations are made:

1. It had been established that research and publications activities of academic staff were major indicators of academic staff productivity; therefore, institutions should put in place appropriate mechanism to enable senior academics and successful institutional researchers to mentor junior academics, in the bid to improve the research/publications effectiveness of academic staff.
2. There should be a review of the promotion conditions of academic staff in the different types of tertiary institutions studied, as well as ensure that there is proper adherence to their research functions. This will help to shore-up the research/publications effectiveness in some of the tertiary institutions.
3: Tertiary institutions management should be mindful of the importance of research activities to academic staff; therefore, they should not burden them with too many tasks that will hinder them from being effective in their research and publications functions.
4. Academic staff should be further encouraged to apply research findings to enrich their classroom teaching, while adjunct staff with field experiences be encouraged to deploy the same towards adequately preparing students for the world of work.
5. While commending the Tertiary Education Trust Fund (TETFUND) for its sponsorship of research studies, institutions sponsorship of staff for conferences and workshops is commendable. However, it should be made to set aside a certain amount of money from its internally generated revenue (IGR) to sponsor academic staff research activities, to complement TETFUND research grants.

6. In the future, efforts must be intensified to draw the attention of the National Assembly to see that NUC bring Nigerian researchers together to fashion ways of aiding collaboration with industries for a positive impact on industries and their products. This will positively rub on the quality of Nigerian products and will enhance the quality of graduates from the institutions.
7. For effective research activities, tertiary institutions must have access to regular power supply and internet service.

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