

Teaching and Research Quality in Nigerian Public Polytechnics: Evidence from North-Eastern Nigeria

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Conflicts of Interest

There are no conflicts to declare.

ABSTRACT

This paper examined the relationship between teaching and research performance of lecturers in the context of federal polytechnics in North-Eastern Nigeria. A simple random sampling method was used in selecting a total of 320 lecturers and 600 students from the polytechnics. For this study t-Test, analysis of variance (ANOVA) and percentage were used to carry out the analysis. Our results show that there is zero or no relationship between been active researcher and been a qualitative teacher. We also suggest that the institution should employ astute researchers as well as passionate teachers in order to satisfy the mission of tertiary institutions and meet societal and industry expectations.

Keywords: TEACHING, RESEARCH, POLYTECHNICS

Introduction

Teachers and Researchers are very important in tertiary institutions. The former ensures adequate transfer of knowledge, inspiration and mentorship to the students to a large extent eventually determines the quality of their contributions upon graduation. The latter has always been the backbone for technological advancement in the society (Okpuije, 2018). Though individual play a role in both activities in the institution. It has been noted that some scholars tend to focus more on teaching than research.

There have been arguments that research and teaching cannot be carried out together in various fora. Questions like “must all faculty members teach and do research” have been asked. Also, some have argued

that one can hardly be a good teacher except the person is a good researcher. Most institutions insist that appointment and promotion must continue to be based on excellence in research and teaching. However, very few faculties have demonstrated ability and time to excel at both research and teaching, most faculties would typically give priority to either research or teaching and just do the much required of the other one (Felder, 1994).

In most countries there is a shared view that institutions should perform both research and teaching activities which in aggregate are seen as complement (Joaquin Artes, 2016). Reasonable arguments for both positive and negative effects of research on teaching can be found in the literature. The complementary view is usually based on the idea that research may create positive spillovers on teaching by facilitating up-to-date courses and a deeper understanding of the relevant topics. On the contrary, these activities could also be thought of as being substitute if one considers constraint of time, effort and funding allocation (Marsh and Hattie, 2002). We can therefore hypothesize on different relationships between research teaching rather than a single link, with these relationships depending on contextual factors such as the type and level of research, the academic discipline or the level and the mode of delivering of teaching (Brew, 1999).

Elken and wollscheid (2016) explicitly distinguished the relationship between research and teaching, in which the “unit of analysis” is the teacher, from the relationship between research and learning in which the “unit of analysis” is the student. Naturally, recognizing the link between these two aspects raises the need for a more global vision of these questions. Hattie and Mash (1996) seminal contribution on this suggest that the models of relationship between teaching and research activity and specifically analyzing the link between scientific productivity and teaching effectiveness, their meta-analysis, based on multiple previous studies, found a practical null correlation between these two elements. Subsequent studies continue to present ambiguous or contradictory results. A review of the literature can be found in Elken and wollscheid (2016). The direction and strength of the teaching research relationship seem to depend on factors such as particular discipline, the type of students, the type of teacher and the orientation of the study program.

Feldman (1987) conclude that research productivity is only slightly associated with teaching proficiency, that likelihood that research productivity actually benefits teaching is extremely small and that for all practical purposes the two are essentially unrelated. Just like Hattie and Marsh (1996) that demonstrated zero relationship in their meta-analysis. Fox (1992) suggested that, teaching and research activities conducted by the academics are antagonistic, competing for time and resources. This view is in line with the findings of Ramsdem and Moses (1992) which conclude that an academic’s commitment to teaching and the ratings of their teaching quality decreased with increasing number of publications.

Jenkins et al. (1998) on the relationship between research and teaching has placed an emphasis on correlation studies and has largely neglect the students perspectives on staff research, their work focus on undergraduate students knowledge and indicates that students do perceive clear benefits from staff research but tend not to see themselves as stakeholders because they are largely unaware of the research in which staff are engaged. Volkwein and Carbone (1994) show that students development outcomes are greater in

research-oriented departments than teaching-oriented departments. However, the same authors conclude that the students development outcomes would be the greatest in the department balancing teaching and research activities. Durning and Jenkins (2005) shows that the linkage between teaching and research is vital to ensure that students develop academic and professional skills, as well as a proper understanding of the complexity of knowledge. This is in line with argument by Clark (1987) that educational productivity is promoted and improved through the relationship between research and teaching. Neumann (1992) suggested three levels at which the relationship between research and teaching may be observed to operate. The first level is where advanced knowledge gained from research is disseminated to students learning. The second level is when the researcher imparts their approaches and attitudes regarding research to students. The third level is the level at which research activities help in designing structure and curriculum contents that impact students learning.

In Nigeria, tertiary institutions have the double mission of teaching and contributing to knowledge through research. In this paper we focus on Federal Polytechnics located in North-Eastern part of the country. This includes: the Federal Polytechnic Bauchi, Federal Polytechnic Damaturu, Federal Polytechnic Mubi and Federal Polytechnic Bali. We measure teaching quality using teaching evaluations based on students' perceptions by administering a questionnaire to the students. We also measure the research performance based on the response of the lecturers to a questionnaire administered to them, as every lecturer must have a number of research publications before he could be promoted to the next rank.

Methodology

In this section, we present the procedures used in conducting this research.

Population and sample

The population for the current study was lecturers and students from Federal Polytechnics in North-East Nigeria. The Polytechnics were selected using census method. A sample of 80 lecturers and 150 students were selected each from the selected polytechnics using simple random sampling which make a total of 320 lecturers and 600 students.

Hypothesis

H_0^1 : There is no significant difference in lecturers teaching quality due to research intensity and students performance.

H_1^1 : There is significant difference in lecturers teaching quality due to research intensity and students performance.

H_0^2 : There is no significant difference in teaching quality due to lecturers' characteristics

H_1^2 : There is significant difference in teaching quality due to lecturers' characteristics

Method of data analysis

For the current study Analysis of Variance (ANOVA), t-Test and percentages were used for the analysis and

Data analysis and results

Table 1: t-Test analysis of teaching quality due to research intensity and students performance

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 reintensity - student performance	-5.66667	9.68848	3.95531	-15.83410	4.50077	-1.433	5	.211

Source: field survey, 2020 conducted

From table 1, the computed t-Test absolute value is 1.433 where as the t-Test table value is 2.571. Since the calculated value is less than the table value, then there is significant difference in the mean response in lecturers teaching quality due to students' performance and research intensity. This means that H_1^1 hypothesis is rejected. At this point, we conclude that the research intensity of a lecturer and students performance has no effect on the teaching quality of the lecturer.

Table 2: analysis of variance (ANOVA) on teaching quality due to lecturers' characteristics

Source	DF	SS	MS	F	P
Sch	5	600	120	0.59	0.708
Error	18	3662	203		
Total	23	4262			

S = 14.26 R-Sq = 14.07% R-Sq(adj) = 0.00%

Source: field survey, 2020 conducted

From table 2, the computed F value is 0.59 where as the F table value is 2.77. Since the calculated value is less than the table value, then there is significant difference in the mean response in teaching quality due to lecturer's characteristics. This means that H_1^1 hypothesis is rejected. At this point, we conclude that the lecturer's characteristics have no effect on the teaching quality of the lecturer.

Table 3: Students perceptions of the characteristics of a good lecturer

Statement	Disagree	Neutral	Agree
Demonstrating knowledge of the subject	6.2%	7.2%	86.6%
Effectiveness in communicating the content	9.3%	7.9%	82.8%
Communicating objectives and requirement clearly	4.2%	10.5%	85.3%
Encouraging feedback from the class	5.9%	10.4%	83.7%
Accessible and willing to provide help	5.4%	9.8%	84.8%
Showing genuine concern for the students	5.6%	7.6%	86.8%
Enthusiastic about the course	4.6%	9.8%	85.6%

Source: Field survey, 2020 conducted

From the table above, 86.6% of the students agreed that knowledge of the subject matter as one of the most important characteristics of a good lecturer and this may directly be related to the research activity of the lecturer. However, one can argue that this knowledge is generally attained through scholarship, rather than original research. Also, 82.8% of the students agreed that effective in communicating the contents as one of the most important characteristics of a good lecturer. As it's found in the literature that it is far more important for the teacher to be able to reach a class well rather than have a vast knowledge on the topic but is unable to communicate it to the class (Brad, 2013). Communication affects the teaching and learning activity in the class. The good lecturer characteristics: showing concern for the students was also identified by a large number of students as a very important quality of the good lecturer. As a teacher even if you have the knowledge and communicated the knowledge, you should be able to understand when students do understand and when they do not understand.

Conclusion

The main focus of the present paper is to investigate the relationship between teaching quality and research activities of academics in tertiary institutions. Based on the findings of this study does however indicates that the research performance does not affect the teaching quality of the lecturers. The characteristics of a good lecturer identified by students in the present paper do not appear to be in favor of active research as requirement for good quality teaching. Apart from knowledge of the subjects which appear to be received through the academic's scholarly endeavors, the characteristics of a good lecturer are arguably less related to their research activities than their teaching roles. It is important to note that this study is focused on Federal Polytechnics located in North-East Nigeria. As such, generalizing results to other tertiary institution has to be considered with care.

Recommendations

In view of that, it is important for the tertiary institution to employ those people who are astute researchers as well as those who are passionate teachers and educational scholars who has little or no interest in research that will motivate students to learn as well as inspire them to grow.

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