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The Influence of Qualifications on Teaching Effectiveness of Academic Staff in Polytechnics: A Case Study of Ondo and Ekiti States, Nigeria

[1]I.A. Ajayi and [2]P.C. Odigbo
[1]Department of Educational Foundations and Management, University of Ado Ekiti, Ado Ekiti, Nigeria
[2]Department of Business Administration and Management, Federal Polytechnic, Ado Ekiti, Nigeria

Abstract: This study examined the influence of qualification on teaching effectiveness of Academic Staff in Polytechnics in Ondo and Ekiti states Nigeria. A descriptive research design was used in the study. Data were collected from a sample of 100 academic staff and 1,500 students selected from the two polytechnics in the States, using stratified random sampling technique. The data collected were analyzed using frequency counts, percentage scores, t-test statistics and one-way analysis of variance. The two hypotheses formulated were tested at 0.05 level of significance. the study revealed that academic qualification had no significant influence on teaching effectiveness but teaching qualifications significantly influenced the teaching effectiveness of the academic staff. It was recommended that emphasis should be placed on possession of teaching qualifications in recruitment of academic staff into the polytechnics, while those without teaching qualifications should be made to obtain them in order to enhance effective teaching in the polytechnics.

Key words: Teaching effectiveness, qualifications, polytechnics, acadamic staff

INTRODUCTION

Academic staff in polytechnics are appointment based on qualifications. Their primary duty is to teach, in addition to research and administrative assignments. As teachers, the academic staff are the catalyst between the learner and the subject matter (Awoyemi, 1986). It is their responsibility to ensure that learning takes place.

It has been observed, however, that some of those employed fail to teach effectively. This has raised questions about some criteria emphasized during the process of selection of academic staff. For instance, good grades and ability to express theoretical knowledge of subject matter used as bases for employing academic were investigated by Shield and Danielle (1982) in their study on teacher quality. They reported that the value of grades as predictors of teaching effectiveness was not encouraging. Stigler and Hiebert (2002) on the other hand, suggested that increased qualification might increase teaching effectiveness.

In the polytechnic, cases were reported of academic staff that display their knowledge in the classroom and end up leaving the students confused. This group exceeds the syllabus and in fact over teaches. They try to answer all questions from students, both relevant and irrelevant, in order to flaunt their intellectual endowment. The opposite are those who do not have good grasp of their subject matter. They detest questions from students and threaten to deal with students who dare to ask questions. Among this group are those who appear to be in a hurry to get the job done so that they can go away. Some show obvious dislike for the students, especially the youthful and precocious types. Ajayi (2007) identified a relationship between mastery of subject matter and teaching effectiveness pointing out that obvious inability of a teacher to answer some questions by students or attempts to avoid them put off brilliant students.

Equally heard of are academic staff that are hardly audible, making students to strain their ears and speculate as to what was said. Some academic staff talk in low tones as a matter of style and sophistication. Ajibade (2005) attributed such behaviour to lack of expertise in the art of teaching.

All these may have informed the recent suggestion by the Teachers Registration Council of Nigeria that all those involved in teaching at all levels should be made to under go training on how to teach. The assumption of the suggestion is that those with teaching qualifications teach better than those without. Whether the assumption can stand especially in polytechnics remains to be established.

In the light of these, this study aims to examine the influence of academic and teaching qualifications on teaching effectiveness. The following hypotheses are raised to guide the study:

Corresponding Author: I.A. Ajayi, Department of Educational Foundations and Management, University of Ado Ekiti, Ado Ekiti, Nigeria

- Educational qualifications of academic staff will not significantly influence their teaching effectiveness.
- Teaching qualification of academic staff will not significantly influence their teaching effectiveness.

Onwuka (1981) conceptualized effective teaching as when students have learnt what they were expected to learn. Hence Vannier and Fait (1975) observed, the best test of effective teaching is the amount of learning that has taken place. It may be difficult to measure, in concrete terms, the amount of learning and scholars are yet to invent a perfect tool for measuring learning. Perhaps for polytechnic graduates and other products of technical institutions, the best test of effective teaching will be shown through acquired skills or products of their heads and hands.

Teaching, qualifications and teaching effectiveness: Teaching is a nebulous concept. A mother teaching her baby to talk, a schoolmaster teaching a boy mathematics, a craft master teaching an apprentice a craft, a trainer teaching a boxer how to dodge etc, are all engaged in teaching. Teaching starts from when a baby gives his first cry and he is first answered (Highet, 1977). In due course, the baby reaches for a knife and the mother takes it away. And so, the live of man of earth appears to be spent learning and teaching.

Teaching takes place under varied circumstances. It may be by a parent or teacher or superior, or even an encounter or an experience. Sometimes, teaching does take place without a teacher.

Teaching can refer to an occupation or profession and it may denote the various activities undertaken by a more experienced and more knowledgeable person in order to enable another learn. The best-known kind of teaching and the most highly organized is done in schools, in colleges, in universities and in technical institutions (Highet, 1977).

Teaching involves interaction between teachers and learners. The objective of the interaction is to produce learning (Rosenshine and Jacobson, 1986). In other words, for any activity to constitute teaching, the purpose of the activity must be to achieve learning. It is by specifying the intention that teaching is differentiated from other related activities.

Teaching used to be conceived as a process of making impressions on pupils. As such, teachers were expected to, literally, pour into or stuff the heads of learners with knowledge. Such teachers try to hand over whatever they received to others and actually praise themselves when the learners were able to regurgitate the information without modification. This practice of committing facts, sometimes irrelevant, to memory, was discredited as rote and not learning. Learning, according to Walls (1999) must bring about a permanent change in behaviour of the learner.

A newer concept is that teaching is an attempt to help someone acquire or change an attitude, knowledge, idea, skill or appreciation (Muijs and Reynolds, 2000). Teaching, thus, becomes the creation of opportunities from which learners can gain such experiences that will enable them acquire the knowledge, skill, attitude and appreciation that will serve as a tool in life (McNicnch, 2000).

Teaching and teaching effectiveness received and continue to receive attention from scholars because of their are central place to the education enterprise. Teaching effectiveness, especially at tertiary level of education, presently occupies centre stage in education research. Researches conducted by Marsh (1987), Ramsden (1991) and Ruben (1997) indicate that students, teachers and administrators agree that effective teaching establishes a positive learning environment, motivates students, provides appropriate challenges, is responsive to students learning needs and is fair in evaluating learning. If university teachers believe that student learning is dependent upon what and how they organize and carry out their teaching through lectures and seminars and assignments and examinations, then they should be student-oriented, approachable, communicative and so effective. Where these are lacking, teaching can only be of doubtfully effectiveness.

Dada (1988) conducted an exploratory study of teaching at university level, in which he asked 312 students to state in writing their expectation from any lecture and the qualities they thought a good lecturer should possess. The essays thus collected were analyzed by extracting the main ideas presented and taking a frequency count of the ideas. The key qualities assessed were: Image of lecturer, personality of lecturer, interaction, conducting lectures, communication skills, examination and discipline. A summary of the expectations is that lecturers should teach rather than lecture, should guide students when they teach and serve as partners in difficult situations, show mastery of their subjects, prepare their lecture and present it well and encourage active participation by learners.

Apart from obvious methodological issues in this study, which has to do with unorthodoxy of the design, validity and reliability of the instrument, the focus of the study is vague. The focus appears to be on lecturers and their lecturing styles. The key qualities assessed were not common. In the light of the above, the work can be said to lack direction. Notwithstanding, recommendations made to improve university teaching includes the use of rating instruments in instructional researches.

In another study of university teaching, Sansanwal and Gholap (1986) examined two types of randomly selected samples made up of 202 students and 21 teachers, respectively from a cross-section of faculties at the Rivers State University of Science and Technology, Nigeria. The basic research instrument was a questionnaire consisting of 20 statements on teaching procedure classified into three broad categories, namely, introduction, presentation and closing. Each statement was rated on a five-point scale, with provision at the end for comments on aspects not covered.

The results related to introduction of lecture revealed that the topics were clearly stated and topics were found to be clearly introduced by lecturers. The closing of lectures were satisfactory. Presentation of lectures was generally unsatisfactory hence; some aspects of presentation need improvement. Such aspects are the language of questioning, the way diagrams are drawn on the blackboard and their explanations, blackboard work in general and references given in class. These shortcomings were explained by the fact that most of the teachers were not trained in the art of teaching. This findings, naturally, raises the question of teaching effectiveness in universities and institutions of higher learning in Nigeria. According to Stigler and Hiebert (2002) teaching effectiveness cannot be created by certificates and consensus, rather it requires shifting focus to teaching.

Cruncshank (1990) also reviewed 10 earlier studies on teaching effectiveness in the USA and organized them into clusters. They include:

- The teacher's traits
- What the teacher knows?
- What the teacher teaches?
- What the teacher expects?
- How the teacher teaches?
- How the teacher reacts to students?
- How the teacher manages the classroom?

Literature shows that scholars have always been interested in evaluating effectiveness of teaching and even go further to seek to identify the variables that may, one way or the other, influence teaching effectiveness. As a key factor in formal education process, the teacher, naturally, is the central figure in these research efforts.

Performance on the job in any profession depends on several factors among which are qualifications. At the primary and secondary levels of education, teaching qualification is a requirement for appointment and progression, but it is not so at the tertiary level. Institutions of higher learning as a matter of tradition, emphases higher qualifications; sponsor staff to obtain higher qualifications and make it a precondition for advancement in the career ladder. Whether or not these qualifications influence teaching effectiveness needs to be examined.

Simbo (1985) conducted a correlational study in which he explored, among other things, the influence of academic qualification on teaching effectiveness. Academic qualification was defined in terms of the level of academic training attained. Seventy-seven teachers randomly selected from ten schools in Ilesa and Ile-Ife municipality responded to the instrument titled Teacher Information Questionnaire (TIQ). TIQ, a 33-item instrument was designed to elicit, among other things information on the teachers academic qualification. A second instrument Teacher Behaviour Description (TBED), was administered to a random sample of 300 students who rated their teachers on a scale of one to five according to how each described the teaching behaviour of those teachers. Teacher's academic qualification was found to have significant negative relationship with teaching effectiveness ($r = -0.78$).

In the USA, Monk (1994) analyzed data from the 1987 Longitudinal Survey of American Youth that included a nationally representative study of 10th graders and their teachers. Monk found a positive relationship between the number of undergraduate mathematics courses that a teacher completed and student achievement in mathematics, as measured by the National Assessment of Educational Progress in the US. However, a threshold effect was observed, such that the degree of positive influence decreased after five undergraduate mathematics courses. Furthermore, the positive effect from teachers' mathematics coursework occurred for students in advanced high school mathematics courses and not in remedial courses. Importantly, teachers' mathematics education courses had larger positive effects on achievement than non-education (e.g., liberal arts) mathematics courses. Having a major in mathematics, an advanced degree, or more years of experience did not influence student achievement. With regard to science, the number of undergraduate courses taken by the teacher in life sciences had no or negative effects on student achievement in life sciences. The relationship between teacher courses and student achievement in the physical sciences was similar to that found for mathematics.

Inadequacy of competent teachers was identified as the major problem facing Nigeria education system (Aina and Beecrot, 1982; Aderounmu, 1986). Questions were raised on the relationship between possession of teaching qualification and teaching effectiveness.

In October 2001, based on the report by Abell Foundation in the USA to the effect that there is no credible research that support the use of teaching qualification as a regulatory barrier to teaching; the US. Secretary of Education concluded that teacher education does not contribute to teaching quality. This resulted to the setting up of a review commission by the Department of Education. The review analyzed 57 studies published after 1980 to conclude that there is a relationship between teacher education and teaching effectiveness (Wilson *et al*., 2001). The review showed that empirical relationship between teacher qualification and student achievement have been found across studies using different units of analysis, different measures of preparation and in studies that employ control for student socio-economic status and prior academic performance.

In another study, Valli and Agnostinelli (1993) described a case study of high school mathematics teachers before and after teacher preparation coursework. Teacher preparation was associated with positive changes in the teacher's use of effective instructional strategies, planning, classroom management and relationships with students. Grossman (1989) documented the experiences of three high school English teachers who had no formal teacher education. These individuals had to rely on experiences as students to guide their practice and consequently, they used the strategies of their college English professors. The three teachers lacked pedagogical content knowledge, a framework from which to interpret the difficulties that their students encountered. The teachers did not understand the need for planning and instead equated planning with knowledge of the subject. They also did not know how to use colleagues as a resource. Two of the three teachers left teaching.

Adeyeye and Arifolo (1999) also investigated the influence of teachers' professional qualification on academic achievement of students in SSCE chemistry in Ekiti State. One thousand and one hundred and fifty students were randomly selected from 13 secondary schools by proportionate stratified random sampling technique. The finding was that a statistically significant difference exists between the academic achievement of students taught by professional and non-professional teachers in Chemistry in SSCE level. Those taught by professional teachers showed a better overall academic achievement in Chemistry in Ekiti State.

Over 100 research studies reviewed in 1992 by Darling-Hammond, shows that fully prepared teachers are more effective than unprepared teachers in knowing how to guide and encourage individual student learning, knowing how to individualize student learning, how to plan productive lessons and how to diagnose student problems. Fully prepared teachers have an in-depth knowledge of content and how it can be taught effectively so that students learn. More recent studies have confirmed these conclusions.

MATERIALS AND METHODS

The descriptive survey design is used in this study. The sample consists of 100 academic staff and 1500 students. By the use of stratified random sampling technique, 66 and 34 academic staff were draw from Federal Polytechnic, Ado Ekiti and Rufus Giwa Polytechnic, Owo, respectively. Each academic staff selected for the study was rated by 15 students drawn from a class he/she teaches. The students were selected by simple random sampling technique.

The instruments of data collection were the Academic Staff Qualification Questionnaire (ASQQ) and Academic Staff Teaching Effectiveness Evaluation Questionnaire (ASTEEQ). The data collected were analyzed using t-test statistics and One-way Analysis of Variance, all at 0.05 level of significance.

RESULTS AND DISCUSSION

Table 1 is a presentation of the general level of teaching effectiveness among academic staff in polytechnics.

Table 1 shows that 24% of the academic staff had low level of teaching effectiveness while 30% of them had moderate level of teaching effectiveness. Only 46% of the staff had high level of teaching effectiveness.

Table 2 is also a presentation of academic and teaching qualifications of academic staff in polytechnics.

Hypothesis 1: Academic qualifications of academic staff will not significantly influence teaching effectiveness.

To test this hypothesis, the teaching effectiveness scores of academic staff with different academic qualifications were compared using one-way ANOVA, as shown in Table 3.

The hypothesis is accepted as the calculated F-values (0.841) is less than the table value (2.31) at 0.05 level of significance (Table 3).

Table 1: Level of teaching effectiveness in polytechnics

Level	Frequency	(%)
Low (below 50%)	24	24
Moderate (between 50 and 59%)	30	30
High (60% and above)	46	46
Total	100	100

Table 2: Academic and teaching qualifications of respondents

Academic qualifications	Frequency	(%)	Teaching qualifications	Frequency	(%)
HND	14	14	NCE	2	2
First degree	30	30	BEd	6	6
PGD	16	16	PGDE	10	10
Masters	36	36	None	82	82
Doctorate	4	4	Total	100	100
Total	100	100			

Table 3: Academic qualification and teaching effectiveness

Source of variation	Sum of squares	df	MS	F-cal	F-table
Between groups	748.563	5	149.711		
Within groups	16733.447	94	178.015	0.841	2.31
Total	17482.000	99			

p>0.05

Table 4: Teaching qualification and teaching effectiveness

Variables	N	Mean	Std. Dev.	df	t-cal	t-table
Without teaching Qualification	82	119.46	19.93	98	2.077	1.980
With teaching Qualification	18	130.86	13.58			

p<0.05

Hypothesis 2: Teaching qualification will not significantly influence teaching effectiveness.

To test this hypothesis, teaching effectiveness of academic staff with and without teaching qualifications were compared using t-test statistics as shown in Table 4.

The t-calculated (2.077) is more than t-table value (1.980) as shown in Table 4 therefore, the hypothesis is rejected.

The results showed that academic qualification obtained by academic staff did not significantly influence teaching effectiveness. This means that academic staff with more qualifications may not necessarily teach more effectively. Of course, if teaching is the ability to help others learn, those people without the inclination or the training to teach will not compensate those with more qualifications. The result is in line with Nwane (1971) who found no significant difference in teaching effectiveness based on academic qualification. Simbo (1985) however, found significant but negative correlation between academic qualification and teaching effectiveness. The difference, though, may be attributed to differences in educational level studied. While Simbo focused on secondary level, this study focused on tertiary.

The hypothesis that teaching qualifications did not significantly influence teaching effectiveness was rejected. This means that possession of teaching qualification significantly influence teaching effectivenes. The academic staff with teaching qualifications are equipped with the techniques and technology of teaching, as well as the psychology of learning. Denton and Lacina (1984) made similar findings. Other researchers as Adeleye and Arifolo (1999) and Goldhaber and Brewer (2000) also came out with same findings. Darling-Hammond (1992) reviewed literature extensively and concluded that teaching qualification makes a difference in teaching effectiveness.

CONCLUSION

Based on the findings of this study, it can be concluded that academic qualifications, do not significantly influence teaching effectiveness among academic staff in polytechnics and that teaching qualification significantly influence teaching effectiveness among academic staff in polytechnics.

RECOMMENDATIONS

The findings of this study have many implications for educational policy and management. To this end, the following recommendations are made.

It was found that academic qualification did not influence teaching effectiveness. It is therefore recommended that instead of sponsoring or encouraging academic staff in polytechnics to seek higher degrees, they should instead be sent on exchange programmes in industries or overseas in order to enrich their teaching.

Based on the finding that possession of teaching qualification influence teaching effectiveness in polytechnics, there is a need to emphasize possession of teaching qualification while recruiting academic staff in polytechnics and those already recruited should be made to obtain relevant teaching qualification in order to enhance the quality of teaching and learning in the polytechnic system. The purpose is for academic staff to learn how to teach what they know.

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