

EFFECTS OF TEACHERS' GENDER AND QUALIFICATION ON STUDENTS' PERFORMANCE IN VOCATIONAL TECHNICAL EDUCATION

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ABSTRACT

The purpose of this study was to assess the effects of teachers' gender and qualification on students' performance in industrial safety. Two research questions guided the study and 2 hypotheses were tested at 0.05 level of significance. Ex-post facto research design was used and the population of the study was 334 students who registered Industrial Safety (TED 112) from 2004/2005 to 2013/2014 Academic Session. Due to the results TED112 available at the time of request for TED112 results, purposive sampling technique was used to select the TED112 result of students for 4 sessions. Two sessions each was selected based on the lecturers' gender and qualification. However, 2007/2008, 2008/2009, 2009/2010, and 2013/2014 Session results were used as sample of the study. Therefore, the sample of the study was 91 undergraduate students. No instrument was developed in this study rather a letter was used to request for data. Data collected was analysed using mean for the research questions and anova (Analysis of variance) to test the hypotheses. The result revealed that the teachers' gender and qualification do not have any significant effects on students' performance in Industrial Safety. Hence, it was recommended among others that Delta State Ministry of Higher Education should employ qualified male and female lecturers to teach vocational technical education courses, since students' performance is not related to the gender and qualification of the teacher, there should be no gender and qualification preference in recruiting VTE teachers in schools.

Keywords: teacher, gender, qualification, performance, & vocational technical education

1. INTRODUCTION

Education is considered the first step for every human activity as it plays a vital role in the development of human capital as well as an individual's well-being and opportunities for better living. Vocational Technical Education (VTE) is a program of study designed to equip students with practical skills in different occupational fields which will help them become self-reliant in the face of the paucity of paid employment. Education for work had its beginning many years ago. In VTE, individuals are formally prepared for the world of work. Technical education differs in both concept and status in different nations of the world. In Nigeria, vocational technical education programmes are offered at the pre-vocational and vocational schools at post-primary level, the technical colleges, the polytechnics, and colleges of technical education and universities at the postsecondary level.

According to Udo (2004), technical vocational education is designed to develop skills, abilities, understanding, attitudes, work habits and appreciation that confers knowledge needed to enter and make progress in employment on a useful and productive basis. Vocational technical education (VTE) has been described as that form of education, which equips its recipients with the knowledge and skill necessary for transforming the findings of science into goods and services for the benefit of humanity (Raji, 2006). Shimare and Sallah (2005) described VTE as a vital instrument for changing and managing the environment recourses for technological, political, social and economic advancement of a nation. VTE is offered in technical colleges, Polytechnics, Monotechnics and Universities in Nigeria. The objectives of TVE are:

- i. Provide trained workforce in the applied sciences, technology and business, particularly at craft and technical levels;
- ii. Provide the technical knowledge and vocational skills necessary for agriculture, commercial and economic development;
- iii. Give training and impart the necessary skills to individuals who shall be self-reliant economically (Federal Republic of Nigeria, 2004).

Academic achievement or performance is used in the school to refer to students' success in learning specified curriculum content as revealed by continuous assessment and examination. According to Adediwura and Tayo (2007), academic achievement is designated by test and examination scores or marks assigned by the subject teachers. It could also be said to be any expression used to represent students' scholastic standing. Levin, Wasanga and Somerset (2011) reported that the academic achievement of students at secondary school level is not only a pointer of the effectiveness of schools, but also a major determinant of the well-being of youths in particular and the nation in general. Yusuf and Adigun (2010); Lydiah and Nasongo (2009) noted that the performance of students in any academic task has always been of special interest to the government, educators, parents and society at large.

According to Ali (2013), academic achievement is a measure of the degree of success in performing specific tasks in a subject or area of study by students after a learning experience. It is the outcome of education that indicates how well a student or class of students is doing academically. Academic achievement is a major issue to teachers, students, parents and guardians as well as other stakeholders in the education industry. This concern cuts across all school subjects and all levels in the education system, including primary, secondary and tertiary. A high academic achievement for any class of students is an indication of teaching/learning

effectiveness while poor academic achievement, on the other hand, is an indication that the teaching/learning process is everything but effective.

The differential scholastic achievement of students in Nigeria has been and is still a source of concern and research interest to educators, government and parents. This is so because of the great importance that education has on the national development of the country. All over the country, there is a consensus of opinion about the fallen standard of education in Nigeria (Adebule, 2004). Parents and government are in total agreement that their huge investment in education is not yielding the desired dividend. Teachers also complain of students' low performance at both internal and external examinations.

Poor academic performance, according to Aremu (2003) is a performance that is adjudged by the examinee/testee and some other significant as falling below an expected standard. Poor academic performance has been observed in school subjects, especially mathematics, chemistry and English language among secondary school students (Adesemowo, 2005). Aremu (2000) stresses that academic failure is not only frustrating to the students and the parents, its effects are equally grave on the society in terms of the dearth of manpower in all spheres of the economy and politics.

Teachers cannot be dissociated from the schools they teach and academic results of schools. It would therefore be logical to use the standardized students' assessments results as the basis for judging the performance of teachers. Teachers celebrate and are rewarded when their schools and teaching subjects are highly ranked. While appreciating the value of rewarding teachers who produce better results, teachers should also not escape a portion of blame when students perform poorly. It has been proved that teachers have an important influence on students' academic achievement. They play a crucial role in educational attainment because the teacher is ultimately responsible for translating policy into action and principles based on practice during interaction with the students (Afe, 2001). In their study, Wright, Horn and Sanders (1997) concluded that the most important factor influencing student learning is the teacher. Teachers stand at the interface of the transmission of knowledge, values and skills in the learning process. If the teacher is ineffective, students under the teacher's tutelage will achieve inadequate progress academically. This is regardless of how similar or different the students are in terms of individual potential in academic achievement.

According to Rivkin, Hanusheck and Kain (2005), there has never been a consensus on the specific teacher factors that influence students' academic achievement. Researchers have examined the influence of teacher characteristics such as gender, educational qualifications and teaching experience on students' academic achievement with varied findings. Akiri and Ugborugbo (2008) found that there was a significant relationship between teachers' gender and students' academic achievement. This is contrary to Dee cited in Akiri and Ugborugbo (2008). Yala and Wanjohi (2011) and Adeyemi (2010) found that teachers' experience and educational qualifications were the prime predictors of students' academic achievement. However, Ravkin et al (2005) found that teachers' teaching experience and educational qualifications were not significantly related to students' achievement. Etsy (2005) study in Ghana found that the teacher factors that significantly contributed to low academic achievement were incidences of lateness to school, absenteeism, and inability to complete the syllabi. Scholars have posited that various factors related to the teachers' characteristics such as their qualification, age, experience, and

gender affect the academic performance of students in Science Technical Education and Mathematics (STEM) courses which Industrial Safety is a part of it.

Industrial Safety course is a general course in the field of Vocational Technical Education which is a core course Technical Education students must pass as a requirement for graduation. There is, therefore, need to assess the effects of teachers' personal characteristics on students' academic achievement in vocational technical education programme. Consequently, this study focuses on the effects of teacher's gender and qualification on the academic achievement of students in the industrial safety course.

Teaching and learning of industrial safety depend to a large extent on the teachers' knowledge of the course content and ability to adequately or effectively deliver the instruction to the students. Scholars have posited that a lot of teachers' characteristics or variables may inhibit or hinder effective subject delivery. According to Abe (2014), these variables include teachers' qualification, experience, and gender. It is against these backdrops that this present study seeks to find out whether teachers' gender and qualification may affect the academic performance of students in industrial safety. Specifically, the study sought to find out the/compare the:

- i. The effects of lecturers' gender on students' performance on Industrial Safety in VTE..
- ii. The effect of lecturers' qualification on students' performance on Industry Safety in VTE
- iii. Compare the mean scores of students taught industrial safety by male and female lecturer
- iv. Compare the mean scores of students taught industrial safety by the lecturer with Ph.D and M.Sc degree.

This study will be significant to technical education lecturers, students and stakeholders. This is so because the study will expose the facts regarding the effects of teachers' gender and qualification on students' performance. Hence, the findings of this study will be useful to judge the performance of students taught industrial safety. This will enable technical education lecturers, students, and stakeholders put in place measures that will improve students' performance in industrial safety.

1.1 Research Questions

The following research questions guided the study:

- i. What is the effect of lecturers' gender on the students' performance in the Vocational Technical Education?
- ii. What is the effect of lecturers' qualifications on the students' performance in the Vocational Technical Education?

1.2 Hypotheses

The following hypotheses were tested at 0.05 level of significance:

- i. There is no significant difference in the mean scores of students taught industrial safety by male and female lecturer.
- ii. There is no significant difference in the mean scores of students taught industrial safety by the lecturer with Ph.D and M.Sc degree.

1.3 Empirical Studies

Owolabi and Adebayo (2012) study examined the effect of teacher's qualification on the performance of Senior Secondary School students in Physics. The results revealed that students taught by teachers with higher qualifications performed better than those taught by teachers with lower qualifications. The result also showed that teacher's gender has no effect on their ability to impart knowledge on the students, much as he/she is a skilled teacher in that field of study. Similarly, Unanma, Abugu, Dike, and Umeobika (2013) study examined the relationship between Teacher's academic qualifications and academic achievement of Senior Secondary school Students in Chemistry. The findings of the research revealed that there was a positive relationship between the teacher's academic qualifications and student's academic achievement.

In addition, Nwosu (2000) investigated the relationship between the qualification of science teachers and students academic performance in science subjects. The study discovered that there is a significant relationship between the qualification of teacher and students' academic performance in science subjects. In same vein, Kifunya (2010) study on Teachers' Characteristics and Their Effects on Students' Achievements in Chemistry: A Case Study of Bungoma North District. The purpose of the study was to investigate the effect of teacher qualification, experience and attitude on students' performance in chemistry. The findings of the study showed that teacher characteristics were more influential in predicting student performance than school factors.

Consequently, Ugbe (2000) carried a research on the influence of teachers' competence in students' academic performance in senior secondary school chemistry in Cross River State. The study revealed that there is a significant difference between the performance of students taught by a qualified teacher and students taught by unqualified teacher in chemistry. Also, there is a significant difference between the performance of students taught by experienced teacher and students taught by inexperienced teacher. Furthermore, Bolarinwa (2014) study titled Teachers Characteristics and Students' Performance Level in Senior Secondary School Financial Accounting. The purpose of this study was to investigate the relationship that exists between teachers' characteristics (qualification, years of experience) and students' performance level in Senior Secondary School Financial Accounting. Findings revealed that a positive relationship exists between teachers' characteristics (Qualification and Experience) and performance level of the students in Financial Accounting. As well, Okoro, Ekanem, and Udoh (2012) study on Teacher Gender and the Academic Performance of Children in Primary Schools in Uyo Metropolis, Akwa Ibom State, Nigeria. The results showed that teacher-pupil gender interactions do significantly affect pupil's academic performance.

2.0 METHODOLOGY

The ex-post facto research design was used in this study. This design was appropriate because no variable was manipulated in this study. The study was limited to the industrial safety course of the Department of Technical and Business Education of Delta State University, Abraka, Nigeria. The industrial safety results from 2006/2007-2009/2010 session were used. Also, the study was limited to undergraduate regular students. The population of this study was 334 students who registered Industrial Safety (TED 112) from 2004/2005 to 2013/2014 Academic Session. Due to the students' TED 112 grades available at the time of request, purposive sampling technique was used to select students' grades for four sessions. Two sessions each was selected based on the lecturers' gender and qualifications. However, 2007/2008, 2008/2009, 2009/2010, and

2013/2014 Session results were used as sample of the study. Therefore, the sample of the study was 91 undergraduate students. No instrument was developed in this study. Rather, the researchers wrote a letter to the Head of Department of Technical and Business Education to request for data which was the TED112 results for the selected sessions. Data were collected by the researchers from the Department of Technical and Business Education Office and mean was used to analyse data for the research questions, while analysis of variance (ANOVA) was used to test the hypotheses. However, mean score of 50-69 is average performance, 70-100 is high performance, and 0-49 is poor performance. Furthermore, it was decided that where the f-calculated value was equal or greater than the table f-value, it indicates significant difference; the null hypothesis will be rejected but if otherwise, the null hypothesis will be accepted. All statistical analyses were performed with statistical package for social sciences (SPSS) software

3.0 DATA ANALYSIS AND RESULTS

The results of this study were presented according to the research questions and hypotheses.

Research Question 1: What is the effect of lecturers' gender on the students' performance in the Vocational Technical Education?

Table 1 revealed that the performance of students taught by male and female lecturers were average, but the mean scores of students taught by female lecturer was higher than that of students taught by male lecturer.

Table 1: The mean scores of students taught Industrial Safety by male and female lecturer

Teachers' Gender	Numbers of Students	Mean Score	Remark
Male Lecturer	7	54.86	Average Performance
Female Lecturer	24	60.33	Average Performance

Research Question 2: What is the effect of lecturers' qualifications on the students' performance in the Vocational Technical Education?

Table 2 revealed that the performance of students taught by lecturer with Ph.D and M.Sc were average, but the mean scores of students taught by lecturer with Ph.D was higher than that of students taught by lecturer with M.Sc.

Table 2: The mean scores of students taught Industrial Safety by the lecturer with Ph.D and M.Sc degree

Teachers' Qualification	Numbers of Students	Mean Score	Remark
Lecturer with Ph.D	14	54.36	Average Performance
Lecturer with M.Sc	46	53.83	Average Performance

Hypothesis 1: There is no significant difference in the mean scores of students taught industrial safety by male and female lecturer.

Table 3 revealed that the $f_{calculated}$ (.007) is less than $F_{tabulated}$ (4.67), therefore, the hypothesis was accepted. This implies that there was no significant difference in the mean scores of students taught industrial safety by male and female lecturer.

Table 3: The analysis of variance (ANOVA) of mean scores of students taught industrial safety by male and female lecturer

		Sum of Squares	Df	Mean Square	F	Sig
Between People		974.714	6	162.452		
Within People	Between Items	1.143	1	1.143	.007	.935
	Residual	955.857	6	159.310		
	Total	957.000	7	136.714		
Total		1931.714	13	148.593		

df=13, F_{tab} =4.67

Hypothesis 2: There is no significant difference in the mean scores of students taught industrial safety by the lecturer with Ph.D and M.Sc degree.

Table 3 revealed that the $f_{calculated}$ (.022) is less than $F_{tabulated}$ (4.21), therefore, the hypothesis was accepted. This implies that there was no significant difference in the mean scores of students taught industrial safety by the lecturer with Ph.D and M.Sc degree.

Table 4: The analysis of variance (ANOVA) of the mean scores of students taught industrial safety by the lecturer with Ph.D and M.Sc degree .

		Sum of Squares	df	Mean Square	F	Sig
Between People		1872.464	13	144.036		
Within People	Between Items	2.893	1	2.893	.022	.885
	Residual	1729.607	13	133.047		
	Total	1732.500	14	123.750		
Total		3604.964	27	133.517		

*Df=27, F_{tab} =4.21

4.0 DISCUSSION AND FINDINGS

Table 1 revealed that the performance of students taught industrial safety by male lecturer was average (54.86). Also, Table 1 revealed that the performance of students taught industrial safety by female lecturer was average (60.33). Furthermore, Table 3 revealed that hypothesis 1 which stated that there is no significant difference in the mean score of students taught industrial safety by male and female lecturer was accepted since the $F_{calculated}$ (0.007) is less than the $F_{tabulated}$ (4.67). These findings are in agreement with a study conducted by Owolabi and Adebayo (2012) which revealed that teacher's gender has no effect on their ability to impact

knowledge on the students, much as he/she is a skilled teacher in that field of study. However, the findings is in disagreement with the research of Akiri and Ugborugbo (2008) which revealed that there was a significant relationship between teachers' gender and students' academic achievement. As well, Okoro, Ekanem, and Udoh (2012) study showed that teacher-pupil gender interactions do significantly affect pupil's academic performance.

Table 2 revealed that the performance of students taught industrial safety by the lecturer with Ph.D was average (54.36). As well, Table 2 revealed that the performance of students taught industrial safety by the lecturer with M.Sc was average (53.83). In addition, Table 4 revealed that hypothesis 2 which stated that there is no significant difference in the mean score of students taught industrial safety by the lecturer with Ph.D and M.Sc was accepted since the F-calculated (0.022) is less than the F-tabulated (4.21). This is in line with Ravkin et al (2005) study which revealed that teachers' teaching experience and educational qualifications were not significantly related to students' achievement. On a contrary, Owolabi and Adebayo (2012) study revealed that students taught by teachers with higher qualifications performed better than those taught by teachers with lower qualifications. Yala and Wanjohi (2011) and Adeyemi (2010) found that teachers' experience and educational qualifications were the prime predictors of students' academic achievement. Similarly, Unanma, Abugu, Dike, and Umeobika (2013) study revealed that there was a positive relationship between the teacher's academic qualifications and student's academic achievement. In addition, Nwosu (2000) study discovered that there is a significant relationship between the qualification of teacher and students' academic performance in science subjects. Furthermore, Bolarinwa (2014) study revealed that a positive relationship exists between teachers' characteristics (Qualification and Experience) and performance level of the students.

5.0 CONCLUSION

Based on the findings of this study, it was concluded that teachers' gender and qualification do not have significant effects on the academic performance of students taught industrial safety. This implies that the rate of students' performance are the same when taught by male or female lecturers, and when taught by the lecturers with Ph.D or M.Sc degree.

6.0 IMPLICATIONS OF THIS STUDY FOR PRACTICE AND/OR POLICY

The implication of the results from this study for practice and/or policy is that the study have been able to established that teachers' gender and qualification does not have significant effects on students' performance in vocational technical education. This implies that in practice and/or policy making, gender and qualification should not be a strong criteria for selecting vocational technical education lecturers. As well, in the distribution of courses to be taught by vocational technical education lecturers.

7.0 RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made:

- i. Since students' performce is not related to the gender of the teacher, there should be no gender preference in recruiting VTE teachers in schools.
- ii. Since students' performce is not related to the qualification of the lecturers, there should be no qualification preference in recruiting VTE teachers in schools.

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