

An Examination of Gender's Influence on Teachers' Productivity in Secondary Schools

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ABSTRACT The study examined the influence of gender on the productivity of secondary school teachers in Delta State; Nigeria. The study was descriptive in nature and involved nine hundred and seventy-nine teachers made up of four hundred and sixty males and five hundred and nineteen females. Two questionnaires and a rating scale were used to collect data for the study. The results of the analyses revealed that although there was no significant difference in the productivity of male and female teachers, the male teachers were generally more productive than their female counterparts and that female teachers were more influenced by location than the male teachers. It was recommended that school administrators should consider gender when posting teachers to various locations. Efforts should be made as much as possible to post female teachers to urban and semi-urban schools. More male teachers should be retained in rural schools and attractive incentives should be used to achieve this. Furthermore, in-service trainings aimed at enhancing job performance should be organized regularly, especially for female teachers in the first five years of employment. Efforts should also be made to retain experienced female teachers in secondary schools. Finally, more males should be encouraged to teach in secondary schools.

INTRODUCTION

High productivity is the hallmark of growth and development of nations all over the world. The level of efficiency, productivity and the ability of the educational system to achieve its set goals depend on the teachers as reflected in performing their defined roles because teachers are the fulcrum upon which the whole educational system revolves (Eduese, 1996). Teachers have been shown to have an important impact on students' achievement and also play a crucial role in educational attainment (Lloyd et al., 2000). Both teaching and learning depend on teachers, for there can be no meaningful socio-economic and political development in any society without teachers.

Declining instructional quality has been identified as one of the most serious problems facing the third world countries, particularly in Africa (Adeniji, 2002). The decline in instructional quality in schools may have resulted to poor performance of students, which is an indication that the standard of education has fallen. Presently, the teaching profession appears to have been taken over by women. There is the

general fear that the perceived fallen standard of education in Nigeria may not be unconnected with this present trend. There is therefore the need for an analytic examination of gender's influence on teachers' productivity in secondary schools.

Statement of the Problem

Teachers' productivity in secondary schools may be determined by several factors which influence the job performance of the teachers. Among these factors, gender is of interest to the general populace especially now that females are gradually taking over and dominating the teaching profession in primary and secondary levels of education. The main problem of the study, put in question form is:- Does gender influence teachers' productivity in secondary schools?

Purpose of the Study

The main purpose of the study was to determine whether the productivity of teachers in secondary schools is influenced by gender. The study also determined the influence of

school location, teachers' age, academic attainment and experience on the productivity of male and female teachers in secondary schools.

Research Questions

The following research questions were raised to direct the study:

1. Is there a difference in the productivity of male and female teachers in secondary schools?
2. How does school location influence the productivity of male and female teachers in secondary schools?
3. How does experience on the job influence the productivity of male and female teachers in secondary schools?
4. How does age influence the productivity of male and female teachers in secondary schools?
5. How does educational attainment influence the productivity of male and female teachers in secondary schools?

Review of Related Literature

Relatively little is in the literature on teachers' productivity. Productivity is concerned with the overall effectiveness and efficiency of getting things done. It is essentially a ratio to measure how well an organization converts resources into goods and services. In the school, teachers' productivity may be measured in terms of teachers' performance. In assessing teachers' performance, qualitative tools such as standardized test scores of students have been used (Schacter and Thum, 2004). However, Blankstein (1996) opined that grades and test scores do not reflect the quality of instruction because teachers' input is not the only factor that influences students' academic achievement in schools. Other factors that have been identified to have significant influence on students' academic achievement include peer effect, race, ethnicity, gender, motivation, income, as well as family background variables such as household environment and parental education (Wenglisky, 2001). This suggests that teachers' productivity level may be evaluated in terms of what the teachers control and actually do in the classroom such as teaching effectiveness and classroom performance.

Teaching effectiveness has been accepted as a multidimensional construct since it measures

a variety of different aspects of teaching (Dunkin, 1997). School administrators, students, colleagues and the teachers' self-evaluation have been used to evaluate teachers' effectiveness. However, students' competence in the evaluation of the effectiveness of their teachers has been of great concern to researchers in education). However, the studies of Barnett et al. (2003), and Pozo-Munoz et al. (2000) suggest that students' ratings are valuable indicators of teaching effectiveness. Despite the fact that there are research reports in support of students' rating of their teachers' effectiveness, Nuhfer (2004) and Pozo-munoz et al. (2000) warned that students' rating should be one of a comprehensive evaluation system and should never be the only measure of teachers' effectiveness. The school administrators' evaluation has also been used to evaluate teachers' effectiveness. The accuracy of school administrators' evaluation of teachers' effectiveness has also been studied. Jacob and Lefgren (2006) found a positive correlation between a principal's assessment of how effective a teacher is at raising students' achievement and that teacher's success in doing so as measured by the value-added approach. The above study suggests that administrators' rating may also be one of a comprehensive evaluation system to measure teachers' effectiveness in secondary schools.

Factors that may influence teachers' productivity have been identified to include teachers' gender, marital status academic attainment teaching experience and age. On the influence of gender, Dee (2005) found that gender interactions between teachers and students have significant effects on students' achievement. However, the studies of Holmlund and Sund (2005) and Tymms (2005) found that teachers' gender has no effect on students' outcome. Consequently, there is no consensus in the literature on the influence of gender on teachers' productivity.

RESEARCH METHODS AND PROCEDURE

The study was a descriptive survey that employed an ex-post-facto design. This design allowed a systematic collection of data in order to determine the influence of gender on teachers' productivity without manipulating the independent variables. The target population of the study was eleven thousand, four hundred and ninety-nine (11,499) teachers who are

employees of Delta State Post Primary Education Board as at 2004/2005 school year. A sample of nine hundred and ninety-nine (979) teachers made up of four hundred and sixty (460) males and five hundred and nineteen (519) females was drawn from the target population by stratified random sampling technique which involved multi-level sampling procedure.

After a careful review of the available literature the productivity variable was determined as a composite of teachers' classroom effectiveness and students' academic achievement. For this reason, two sets of questionnaires and a rating scale were designed. The first questionnaire tagged Teacher Effectiveness Questionnaire I (TEQI) was designed for school administrators to evaluate the teaching effectiveness of the sampled teachers in each school. The school administrators who responded to TEQI were the heads of departments and vice principals of the teachers that participated in the study. The second questionnaire tagged Teacher Effectiveness Questionnaire II (TEQII) was designed for students to evaluate the sampled teachers' classroom effectiveness. Three randomly selected students of each sampled teacher at the time of the study were made to respond to TEQII. The questionnaires TEQI and TEQII, which contained twenty-two items each, evaluated teachers' classroom effectiveness in the areas of subject content mastery, class attendance, punctuality to class, lesson preparation and delivery, student assessment, rapport with students, creativity and resourcefulness, classroom management, communication skills and concern for students' welfare. Statements drawn from identified factors of teachers' effectiveness passed through factor analysis to verify their construct validity. Cronbach's alpha of 0.93 and 0.79 were obtained respectively for TEQI and TEQII. The rating scale used for the study was tagged Student Academic Performance Rating Scale (SAPRS). This instrument was designed to enable the researchers evaluate the performance of students taught by the sampled

teachers for three consecutive school years. The researchers and research assistants obtained the students' raw scores from the academic records in the respective schools.

DATA ANALYSIS

The analyses used data from surveys and administrative records to determine the productivity levels of teachers in public secondary schools. The teachers' demographic characteristics were also taken into account in the analyses. The administrative records contained three-year academic performance of all the students taught by each respondent teacher in the study. The analyses centred on answering the research questions. Percentages, t-test, z-test and single factor analysis of variance (ANOVA) were used to analyze the data. The results of the analyses are presented in tables.

Research Question 1

Is there a difference in the productivity of male and female teachers in public secondary schools?

To answer this question, the percentages of male and female teachers with high moderate and low ratings were compared. Z-test and t-test were used to determine the mean difference in the productivity of male and female teachers. The results of these analyses are shown in table 1.

Table 1 shows that 28.3% of males are high, 71.1% are moderate and 0.6% are low in the productivity measures used. As for female teachers, 26.6% are high, 72.8% are moderate while 0.6% are low in the productivity scale used. There is no difference in the percentage of male and female teachers rated low. The Z-tests showed that the mean differences in the productivity of male and female teachers rated high and moderate are small and not significant. Similarly, the t-test showed that the mean difference in the productivity of male and female teachers rated low is not significant. These analyses indicate

Table 1: Productivity of male and female teachers by levels.

Productivity	Male		Female		Test Statistics			
	No	%	No	%		Cal	Crit	P value
High	130	28.30	138	26.60	z-test	-1.052	1.96	0.29
Moderate	327	71.10	378	72.80	z-test	-1.13	196	0.26
Low	3	0.60	3	0.6	t-test	1.902	4.303	0.20
Total	460	100.00	519	100.00				

p< 0.05 (2-tailed)

Table 2: Productivity of male and female teachers by location

Location	Male		Female		Z-test		
	No	%	No	%	Cal	Crit	P value
Urban	192	41.7	268	51.6	1.16	1.96	0.24
Mean	72.30		71.95				
S. Urban	125	27.2	142	27.4	0.00013	1.96	0.99
Mean	70.87		70.99				
Rural	143	31.1	109	21.6	-3.17	1.96	0.001
Mean	70.90		69.63				
Total	460	100.0	519	100.0			

$P < 0.05$ (2-tailed)

that there is no difference in the productivity of male and female teachers in secondary school.

Research Question 2

How does school location influence the productivity of male and female teachers in secondary schools?

Simple percentage, mean, Z test and single factor ANOVA were used to answer this question. The results of the analyses are shown in table 2.

Table 2 shows that the mean productivity difference between male and female teachers in urban schools is 0.35% in favour of male teachers while the mean difference in the productivity of male and female teachers in semi urban schools is 0.12% in favour of female teachers. However, Z-test showed that these differences are not significant. The table also shows that the mean difference in the productivity of male and female teachers in rural schools is 1.27% in favour of male teachers. Z-test shows that this difference is significant. The analysis showed that the productivity of female teachers in rural locations is less than that of male teachers. Table 2 shows a consistent drop in the mean performance of female teachers with values of 71.95, 70.99 and 69.63 respectively for urban, semi-urban and rural locations. The results of the single factor Analysis of Variance (ANOVA) is shown in table 3.

Table 3: Single factor Analysis of variance for male and female teachers in urban, semi- urban and rural locations.

Gender	F_Cal	F_Crit	P_Value
Male	3.01	3.02	0.05
Female	5.77	3.02	0.003

$P < 0.05$ (2-tailed)

Table 3 shows that the influence of location on the productivity of female teachers is very high while location has milder effect on the

productivity of male teachers. The analysis indicates that the productivity of female teachers is significantly influenced by location. Female teachers perform best in urban schools and worst in rural schools. Although location also influences male teachers' productivity, the influence is not as much as it is for the female teachers.

Research Question 3

How does experience on the job influence the productivity of male and female teachers in secondary schools?

This question is answered with mean and z-test. The results of the analyses are shown in table 4.

Table 4 shows that the mean difference in the productivity of male and female teachers is 1% in favour of male teachers. The z-test shows that this difference is significant. However, the mean productivity differences between experienced and highly experienced male and female teachers are statistically not significant. Table 4 also shows that the mean productivity of male teachers was highest in the first five years of service whereas the mean productivity of female teachers was highest between six and fifteen years of service. This indicates that female teachers' performance improves as more experience is acquired on the job and so the initial gap in the productivity of male and female teachers at the point of entry closed with increasing years of experience on the job.

Research Question 4

How does age influence the productivity of male and female teachers in secondary schools?

To answer this question, mean and t-test were used. The results of the analyses are shown in table 5.

Table 4: Productivity of male and female teachers by teaching experience

Teaching Experience (yrs)	Male		Female		z-test		
	No	%	No	%	Cal	Crit	P value
Inexperienced (0 – 5)	64	13.9	105	20.3	-2.47	1.96	0.01
Mean		71.86		70.86			
Experienced (6 – 15)	181	39.4	229	44.1	0.28	1.96	0.78
Mean		71.35		71.64			
Highly Experienced (Over 15)	215	46.7	185	35.6	-1.64	1.96	0.09
Mean		71.42		70.89			
Total	460	100.0	519	100.0			

P< 0.05 (2-tailed).

Table 5: Productivity of male and female teachers by age

Age (yrs)	Male		Female		z-test		
	No	%	No	%	Cal	Crit	P value
21 – 30	31	6.7	61	11.8	1.35	2.0	0.18
Mean		72.50		70.57			
31 – 50	386	84.0	438	84.4	0.95	2.0	0.34
Mean		71.52		71.34			
Over 50	43	9.3	20	3.8	0.50	2.0	0.62
Mean		70.41		69.61			
Total	460	100.0	519	100.0			

P< 0.05(2-tailed)

Table 5 shows that the mean performance of male teachers consistently dropped with increase in age. This decline in the productivity with age may be because they often take-up part-time employment within and outside the teaching profession in order to meet up with increasing family and social responsibilities. This often leads to decrease in male teachers' commitment to job assignments and therefore decline in productivity. On the other hand, the productivity of female teachers rose up to middle age (31-50yrs) and thereafter, decline set in. The increase in the productivity of female teachers between the ages of 31 – 50 years could be because most of these teachers are married and due to the support from their husbands, they experience less financial pressures and are more committed to their job assignments than their male counterparts in the same age bracket. Although the male teachers generally performed better than the female teachers in all ages, the differences in the mean productivity were not significant. The highest difference in mean productivity was between the young (21-30 yrs) male and female teachers in favour of the male teachers. At this age, most female teachers get into matrimony and begin to raise a family. The associated problems could distract them from their job assignments

and may lead to low productivity. The male teachers, on the other hand, hardly get into matrimony within this age bracket and so are less distracted, more committed to job assignments and therefore more productive.

Research Question 5

How does educational attainment influence the productivity of male and female teachers in secondary schools?

To answer this question, mean and z-test were used. The results of the analyses are shown in table 6.

Table 6 shows that the mean productivity of male teachers with less than Bachelors, Bachelors and higher than Bachelors degrees respectively are 72.29, 71.33 and 70.64, while the mean productivity of female teachers of similar academic attainments are 71.32, 71.29 and 69.69. Although the male teachers are more productive than female teachers of same academic attainment, the differences in performance is however, statistically not significant. There is general reduction in the productivity of both male and female teachers as the academic attainment increases. This indicates that the productivity of male and female teachers are similarly influenced by academic attainments.

Table 6: Productivity of male and female teachers by educational qualification

Educational Qualification	Male		Female		z-test		
	No	%	No	%	Cal	Crit	P value
< Bachelors	93	20.2	130	25.0	1.81	1.96	0.07
Mean	72.29		71.32				
Bachelors	331	72.0	358	69.0	-0.19	1.96	0.85
Mean	71.33		71.29				
> Bachelors	36	7.8	31	6.0	-0.30	1.96	0.20
Mean	70.64		69.69				
Total	460	100.0	519	100.0			

P < 0.05(2-tailed)

CONCLUSION

From the results of the study, it was concluded that gender has some influence on the productivity of secondary school teachers. The influences of gender on the productivity of teachers in this study are:

1. Location affects female teachers' productivity more than male teachers. Female teachers are significantly less productive in rural locations than male teachers.
2. Male teachers are most productive in the first five years of service while female teachers are most productive between six and fifteen years of service after acquiring some experience on the job.
3. Male teachers perform best when they are younger up to thirty (30) years while female teachers perform best in middle age between thirty one and fifty (31-50) years.
4. Male and female teachers are similarly influenced by higher educational attainment. Higher educational attainment reduces the productivity of male and female teachers alike.

RECOMMENDATIONS

The study therefore recommends the following;

1. Gender should be considered in posting teachers to different locations. More males should be encouraged to be located in rural secondary schools. Therefore, attractive incentives should be given to rural teachers so that males posted to such locations will accept such posting. Also, conscious efforts should be made to keep the female teachers as much as possible in urban and semi-urban schools.
2. The enthusiasm of the young and inexperienced male teachers should be encouraged

by better conditions of service in order to sustain high productivity in secondary schools. Also, the inexperienced female teachers should be exposed to on-the-job trainings aimed at improving job performance and productivity.

3. Efforts should be made to retain experienced middle-aged women in secondary schools.

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