

Supervision as a Determinant of Public Secondary School Teachers' Effectiveness in Central Senatorial District of Delta State

Obakpolo Patricia¹, Osakwe R. N.²

^{1&2}(*Educational administration, and policy studies, Delta State University Abraka, delta state, Nigeria.*)

Abstract : *The study investigated supervision as a determinant of public secondary school teachers' effectiveness in Central Senatorial District of Delta State. Seven research questions were raised and answered and seven hypotheses were formulated and tested to guide the study. The study used the correlational research design. A sample of 997 teachers was utilized for the study. The research instrument used for data collection was the questionnaire titled teachers' supervision and teachers' effectiveness (TSTE) questionnaire. The data collected were analyzed using simple percentage for the socio-demographic data and simple regression and correlation statistics for the research questions and hypotheses. The seven hypotheses were tested at 0.05 level of significance. The results revealed that there was a significant relationship between teachers' supervision and their teaching effectiveness, there was a significant relationship between teachers' educational qualification and their teaching effectiveness, and there was a significant relationship between teachers' teaching experience and their teaching effectiveness, hence supervision was seen as a vital and critical element of teaching effectiveness.*

Keywords: *Determinant, Supervision, Teacher, Teachers' Effectiveness, Public secondary school*

I. Introduction

In Nigeria as in many other developing countries, education is considered to be the cornerstone of economic growth and development. The Nigerian government believes that to survive in the competitive world economy, quality education is the key variable. Grounded in this belief, educational reforms have taken place and are directed towards improving the quality of education. These reforms in Nigeria are demanding greater performance and commitment from the teacher, holding teachers and supervisors responsible for the performance of students in secondary [11], [9].

Education is the instrument for economic empowerment and development for sustainable economy. No wonder, one of the national education goals is "the acquisition of appropriate skills and development of mental, physical and social abilities and competencies as equipment for the individual to live and contribute to the development of the society" [17].

Children learn, retain and practice after leaving school has direct impact on the nation's competencies and skills. What is learnt both formally and informally thus determines the individuals' ability to contribute to national development. According to [7], educated human resources constitute manpower and personnel that bring about national development. It therefore means that the quality of education received by the citizens determines the level of development of the nation.

There has been a public outcry on the continual decline in the quality of education in the country especially as indicated in public examination and the performance of education outputs that are inadequate for employment. For instance, Federal Ministry of Education [16] reported that average of 13.8 percent and 20.72 percent of candidates who sat for the West African Senior School Certificate Examination [43] and the National Examination Council (NECO) between 2000 and 2006 had five credits (including mathematics and English) respectively. Employers of labour also complain about low performance of graduates from the nation's institution of higher learning.

A number of factors determine the level of performance in the school system, especially the quality of the input, [12] opined that goals of education can only be achieved with a well-organized school system that would ensure that all aspects of school life are well articulated and effectively coordinated. For the education industry to carry out its function of developing quality human capital, there is need for checks and balances by regular and effective supervision of teachers.

Supervision as a concept means different things to different people. [10] and [18] perceive it as the attempt to oversee, direct and control the activities of subordinates. Others [23], [40], [6], [36], [15], [25] and [22] see supervision as a helping relationship between super-ordinates and the subordinates. However, supervision has been agreed upon to be a vital element of professional growth and development.

Supervision, [27] is an aspect of management, which permeates all other aspects because no manager can afford to wait till the end of production process before embarking on supervision. In the same vein, there

seems to be little or no area of operation within the school system where the need for supervision would not arise.

The critical areas within the school system that require supervision are curriculum and management areas where both the content, method or mode of delivery, and the personality of both students and the teachers are examined to ensure their adequacy for the school systems, [5].

Nevertheless, in the process of activities within the school, there is the need for checks and balances to ascertain the level of conformity with the goals set and ways of achieving them [26] and [12]. This trend will also afford both the planners and implementers the opportunity of evaluating and appraising the system with a view to modifying it to engender desirable results. The need for supervision arose out of the fact that the structure of the organization must be coherent, to enable all within the system know their position.

Since supervision has been reported to enhance effectiveness in many organizations, this study therefore poses the question that says; how does teachers' supervision predict their teaching effectiveness in Central Senatorial District of Delta State.

So far, there is a dearth of research in the area of supervision of teachers' effectiveness in public secondary schools in Central Senatorial District of Delta State of Nigeria. Perhaps, very few studies have been carried out in this area and this gap is what the study intends to fill. Therefore, this study focused on supervision as a determinant of public secondary school teachers' effectiveness in Central Senatorial District of Delta State. The knowledge gained here will enhance the effective supervision of teachers for service efficiency.

1.1 Theoretical Framework

The theoretical framework used for this study was the McGregor's Theory X and Y of 1960. McGregor's Theory X which emphasized that the average human being has an inherent dislike for work and will avoid it if possible. Hence, emphasis on close direction and supervision in order to achieve organizational goals was advised.

1.2 Techniques of Educational Supervision

Egwunyenga (2005) [14] opined that there are various techniques of supervision, but the most acceptable and most commonly practiced supervisory techniques are as follows:

1. Classroom visitation and observation technique.
2. Inter-school visitation and techniques
3. Workshop technique
4. Micro-teaching technique

Basic Principles of Effective Supervision

The principles for effective supervision are statements of truth that serve as a guide to the activities which are designed by designated officials to improve instruction and consequently facilitate the teaching-learning process at all levels of the school enterprise, [37]. A number of guiding principles which governs the operation of effective supervision can be seen as follows:

- a. **Healthy Atmosphere:** The environment should be made free of tension and emotional stress. As observed by [38] that principals must avoid supervisory approach which are likely to cause interpersonal tension and dissatisfaction among teachers. The atmosphere should be given incentives for work.
- b. **Staff Orientation:** The quality and quantity of work must be specified in clean clear terms. Teachers should be made to understand clear what are or not expected of them. New staff must be given the necessary orientation. They should have a schedule to know where to get information and materials to help them perform the work satisfactorily well.
- c. **Guidance and Staff Training:** Teachers should be offered necessary guidance. They should be guided on how to carry out the assignment. Standard should be set by the supervisor while information should be given ruling out the possibility of rumours. Information should be for everybody and specifics to individuals assigned to a particular task. Techniques of how to do it must be given at all times. The school must arrange and participate in staff training [42].
- d. **Constructive Criticisms:** Poor work done should be constructively criticized, advice and personal relationship should be given to the affected teacher, and such criticism should be made private and with mind free of bias.

- e. Opportunity for Improvement: Teachers should be given opportunity to prove their worth and for aspiring higher. They should therefore be allowed to use their initiatives in performing their jobs and taking decision. This will give them the motivation to work much harder.
- f. Opportunity for Improvement: Teachers should be given opportunity to prove their worth and for aspiring higher. They should therefore be allowed to use their initiatives in performing their jobs and taking decision. This will give them the motivation to work much harder.
- g. Motivation and Encouragement: Teachers should be motivated and encouraged to work to increase the productive. They should be encouraged to improve their ability to achieve efficiency in educational goals.

Teaching effectiveness on the other hand has been accepted as a multidimensional construct since it measures a variety of different aspects of teaching such as; subject mastery, effective communication, lesson preparation and presentation, [33].

The influence of teachers' teaching effectiveness on the learning outcome of students' as measured by students' academic performance has been the subject of several studies [1], [4], [39] and [41]. The above studies suggest that effective teaching is a significant predictor of students' academic achievement. Therefore, effective teachers should produce students of higher academic performance.

Poor academic performance of students in Nigeria has been linked to poor teachers' performance in terms of accomplishing the teaching task, negative attitude to work and poor teaching habits [30]. It has also been observed that conditions that would make for effective teaching such as resources available to teachers, general conditions of infrastructures, as well as instructional materials in Public Secondary Schools in Nigeria are in poor conditions [34]. These prevailing conditions would definitely show a negative influence on the instructional quality in public secondary schools which may translate to poor educational attainment.

Again, research has also identified, a number of directly observable teacher characteristics that are linked to teacher quality and performance [19], [31], [8]. They noted that students do better in mathematics if taught by a teacher with a bachelor's or masters' degree in mathematics.

Since students' academic scores are not the only predictors of teachers' effectiveness, researchers have sought other fairer ways of evaluating teachers' effectiveness. Students, administrators, colleagues and the teachers' self-evaluation.

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. [20] found a positive correlation between a principals' assessment of how effective a teacher is at raising students' achievement and that the teachers' success in doing so as measured by the value-added approach [28]. The above study suggests that administrators rating may also be one of a comprehensive evaluation system to measure teachers' effectiveness in secondary school.

II. Research And Procedure

The research design used in this study was the correlational design which attempt to estimate the extent of relationship between variables in other to analyze, describe, compare and contrast, classify and to interpret the result of the finding or to answer questions concerning the problem at stake.

2.1 Population of the Study

The population was made up of all secondary school teachers in Delta State during the 2009/2010 academic year. The target population of the study was 4884 which represents all teachers in the Central Senatorial District of Delta State.

2.2 Sample and Sampling Technique

The sample for the study was 997 teachers which represented 20% of the target population of 4884 teachers in Central Senatorial District of Delta State. The multi stage sampling technique was used. The Senatorial District had a total of eight Local Government Areas namely: Uvwie 1013, Ughelli North 1152, Ughelli South 405, Udu 374, Sapele 866, Okpe 274, Ethiope West 326, and Ethiope East 474, totaling 4884. From the 8 Local Government Areas, 5 Local Government areas were randomly selected to include: Ethiope East 474, Ethiope West 326, Sapele 866, Ughelli North 1152, and Uvwie 1013, for sample representation of the Senatorial District. Thereafter, 50 secondary schools were selected with 10 (ten) schools per Local Government Area. Finally, 20 (twenty) teachers were selected from each of the 50 randomly selected secondary schools, totaling 997 teachers representing 20% of the population which constituted the respondents [16].

2.3 Research Instrument

The research instrument used in collecting data was the questionnaire. Two questionnaires were designed for the study titled: Teachers' Supervision and Teachers' Effectiveness Questionnaires (TSTEQ) and were designed by the researcher. The teachers' supervision questionnaire was divided into two parts: Part A and Part B. Part A solicited the demographic data of the respondents such as sex, educational qualification, teaching experience, age, location and marital status and Part B was the teachers' supervision questionnaire consisting of 36 items. The other questionnaire was the teachers' effectiveness questionnaire which had a total of 27 items with 6 sub scales based on the variable under study.

A four point scale of measurement was used. It required respondents to rate each item accordingly from Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). Responses to items in section B and C were scored as follows;

Strongly Agree	(SA)	4 Points
Agree	(A)	3 Points
Disagree	(D)	2 Points
Strongly Disagree	(SD)	1 Point

2.4 Validity of Research Instrument

Validity is a very important feature in any research instrument because it gives objectivity to data collected and the purpose for which it was collected. The face and content validity of the instrument were first subjected to a through screening to ensure that they were relevant, clear, and unambiguous by the researchers' supervisor. Since the instrument was designed by the researcher, it was also subjected to the construct validity which was determined using the factor analytic method. This was done by distributing (50) copies of the questionnaire to fifty respondents. Their responses were graded and fed into the computer for the principal component factor analysis. The Eigen value that was above one was used for the selection of each of the components. Items loaded into each factor were selected based on the rotated factor matrix values above .50. On the whole, the initial number of items in the Teachers' Supervision Questionnaire and Teachers' effectiveness questionnaire was 36 and 27 respectively. 30 items on teachers Supervision Questionnaire and 27 items on teachers' effectiveness questionnaire were retained in the instrument. On the whole, the total amount of variance accounted for by the items was 76.06% which constituted the factor validity of the instrument.

2.5 Reliability of Research Instrument

The statistical tool used was the Cronbach Alpha. The instrument was administered to 50 selected teachers in a school that was not among the sampled schools. This secondary school was used for the pilot test for only the reliability of the research instrument and was excluded from the final sample used for the study. The scores obtained were loaded and scored for each respondent; the scores were fed into the computer. A reliability coefficient of .91 for teachers' supervision questionnaire and .95 for teachers' effectiveness questionnaire, significant at .05 was obtained. The Cronbach Alpha was also used to estimate the internal consistency of all the subscales in teachers' effectiveness questionnaire. For example, good organization and planning sub scale yielded a coefficient alpha of .81, teachers/student interaction sub-scale .79, clarity, effective communication sub-scale .78, grading sub-scale .84, flexibility of approaches towards teaching sub-scale .76 and ratings of supplementary materials sub-scale .83. Therefore, the (TSTE) instrument was considered to have a good reliability measured for this kind of study.

2.6 Administration and Collection of Instrument

The research instrument was administered by the researcher and a team of research assistants to sample public secondary school teacher in Central Senatorial District of Delta State. The research assistants were thoroughly coached on the administration and collection of the questionnaires. There was need for research assistants because of the vast area of coverage and besides, it was an uphill task for only the researcher. A total of 1010 copies of questionnaire were administered and 997 were retrieved which represented 96.7%.

2.7 Method of Data Analysis

The statistics of simple percentage was used for the analysis of the socio demographic data used in the study and the simple correlation and regression model of statistics was used to analyze the seven research questions and hypotheses. All hypotheses were tested at the .05 level of significance.

III. Presentation Of Results And Discussion

This section presents the result of the analysis of data collected from 997 respondents involved in this study. The results were presented in Tables on the basis of the seven research questions raised and seven (7) null hypothesis formulated for the study. The correlation matrix of the variables was first presented in a Table to reveal the level of inter-correlation among the independent variables in the study.

Table 1 Demographic Characteristics of Respondents' Sex N=997

Sex	Frequency	Percent	Valid Percent	Cumulative
Male	410	41.1	41.1	41.1
Female	587	58.9	58.9	100.0
Total	997	100.0	100.0	

Out of the 977 respondents, 410 respondents representing 41.1% of the sample represented male while 587 respondents which constitutes 58.9% represented the female participants.

Table 2: Demographic Characteristics of Respondents' Educational Qualification N=997

Qualification	Frequency	Percent	Valid Percent	Cumulative
NCE	444	44.5	44.5	76.4
B.Ed	318	31.9	31.9	31.9
B.Sc.	180	18.1	18.1	94.5
PGDE	51	5.1	5.1	99.6
M.Ed	4	4	4	100.0
Total	997	100.0	100.0	

A total of 444 respondents of NCE representing 44.5% of the respondents, 318 respondents had B.Ed. representing 31.9% of the respondents, 180 had B.Sc. representing 18.1% of the respondents, 51 respondents had PGDE representing 5.1% of the respondents and 4 M.ED. representing 4% of the total respondents.

Table 3: Demographic Characteristics of Respondents' Teaching Experience

Age groups	Frequency	Percent	Valid Percent	Cumulative
0-5 yrs	315	31.6	31.6	31.6
6-10 yrs	425	44.6	44.6	74.2
11-12 yrs	222	23.0	23.0	97.2
16-20 yrs	26	2.6	2.6	99.8
Above 20 yrs	2	2	2	100.0
Total	997	100.0	100.0	

Out of the 997 respondents, 315 had 0-5 years teaching experience, representing 31.6%, 425 had 6-10 years teaching experience representing 42.5%, 229 had 11-15 years teaching experience which represented 23.0%, 26 respondents had 16-20 years teaching experience representing 2.6% and 2 respondents had above 20 years teaching experience representing .2% of the total sample.

Table 4: Demographic Characteristics of Respondents' Age

Age group	Frequency	Percent	Valid Percent	Cumulative
20-30 yrs	113	11.3	11.3	11.3
31-40 yrs	310	31.1	31.1	98.5
41-50 yrs	559	56.1	56.1	67.4
51 Above	14	1.4	1.4	99.9
Total	997	100.0	100.0	

Age was categorized into the following: 20-30 years, 31-40 years, 41-50 years and 51 and above. 113 respondents were between the ages of 20-30 years representing 11.3%, 310 respondents were between the ages of 31-40 years representing 31.6%, 599 respondents were between the ages of 41-50 years representing 56.1% and 14 respondents were between the ages of 51 and above which represented 1.4% of the total sample.

Table 5: Demographic Characteristics of Respondents' Location

	Frequency	Percent	Valid Percent	Cumulative
Urban	387	38.8	38.8	38.8
Rural	610	60.6	60.6	99.4
Total	997	100.0	100.0	

Out of the 997 respondents, 387 respondents were from the urban schools representing 38.8%, and 610 respondents were from the rural schools representing 61.0% of the total sample.

Table 6: Demographic Characteristics of Respondents' Marital Status

	Frequency	Percent	Valid Percent	Cumulative
Married	601	60.1	60.1	60.1
Single	396	39.6	39.6	99.9
Total	997	100.0	100.0	

601 respondents were married representing 60.1% and 396 were single representing 39.6% of the total sample.

Table 7: Correlation Matrix of Independent and Dependent Variables

	Independent Variables	Teachers Sup.	Sex	Edu. Qual.	Teaching Exp	Age	Location	Marital Status	Teachers Eff.
1.	Teacher Sup.	1.00							
2.	Sex	-.23	1.00						
3.	Edu. Qual.	-.90**	-.19**	1.00					
4.	Teaching Exp.	-.06**	-.13**	.67**	1.00				
5.	Age	-.09**	.09	-.64**	.74**	1.00			
6.	Location	-.00	-.01	-.03	-.08**	-.04**	1.00		
7.	Marital Status	.00	-.15**	-.39**	-.49**	-.52**	.14	1.00	
8.	Teachers' Eff.	-.58**	-.06	-.10**	-.04	-.07**	.01	.00	1.00

As show in Table 7, there was evidence of significant correlation between the dependent variable of Teachers' Effectiveness and the independent variable of Teachers supervision. The correlation coefficients were .58, -.10 and -.07. Furthermore, there was evidence of inter-correlations among the independent variables with coefficients of -.90 for teachers' supervision and educational qualification, -.6 for teachers' supervision and teaching experience, -.09 for teachers' supervision and age, -.19 for sex and educational qualification, -.13 for sex and teaching experience, -.15 for sex and marital status, .67 for educational qualification and teaching experience, -.64 for educational qualification and age, -.39 for educational qualification and marital status, .74 for teaching experience and age, -.8 for teaching experience and location, -.49 for teaching experience and marital status and .52 for age and marital status.

Research Question 1: How does teachers' supervision predict teachers' teaching effectiveness?
Hypothesis 1: Teachers supervision does not significantly predict their teaching effectiveness.

Table 8: Relationship between Teachers' Supervision and their Teaching Effectiveness

R	R. Square	Adjusted R. Square	Std. Error of the Estimate		
.582	.339	.338	4.884		
ANOVA					
	Sum of squares	Df	Mean square	F	
Regression	12177.623	1	12177.623	510.430	.000
Residual	23734.311	995	23.868		
Total	35915.934	996			
Coefficient					
	Unstandardized coefficient		Standardized coefficient	t	significant
	B	Std. Error	Beta		
Teachers supervision (constant)	.703 20.151	.031 3.076	.582	22.593 6.551	.000 .000

P < .05 level of significance

Note:

B = Regression Coefficient

SEB = Standard Error of B

R = Degree of association: This answered the research question

As shown in Table 8, the research question was answered in the affirmative. For example, the computed R=.58 indicates that there was a linear relationship between teachers' supervision and their teaching effectiveness. The results of the analysis showed that the regression coefficient of .58 significant at *P* < .05 was found for the study. Moreover a coefficient of determination R² (adjusted) of .338 was also found for the study.

This indicates that the variation in teachers' effectiveness accounted for by their supervision was 33.8%. The regression data for the study produced an F-value of 510.43 which was found to be significant at $df = (1,995)$, $F = 519.43$, $P < .05$ level of significance. Therefore, the null hypothesis which stated that teachers' supervision is not significantly related to teaching effectiveness was rejected. The conclusion reached was that teachers' supervision is significantly related to teachers' effectiveness in public secondary schools in Delta State.

Research Question 2: How does teachers' gender predict their teaching effectiveness?

Hypothesis 2: Teachers' gender does not significantly predict their teaching effectiveness.

Table 9: Relationship between Supervision of Teachers' Gender and their Teaching Effectiveness

R	R. Square	Adjusted R. Square	Std. Error of the Estimate		
.057	.002	.002	5.998		
ANOVA					
	Sum of squares	Df	Mean square	F	
Regression	116.023	1	116.023	3.225	.073
Residual	37799.910	995	32.980		
Total	35915.934	996			
Coefficient					
	Unstandardized coefficient		Standardized coefficient		
	B	Std. Error	Beta	t	significant
Sex (constant)	-.693 90.659	.861 .642	.057	-1.796 141.187	.073 .000

P < .05 level of significance

As shown in Table 9, the research question 2 was answered in the affirmative. The results of the analysis showed that the regression coefficient of .06 significant at $P > .05$ was found for the study. A coefficient of determination R^2 (adjusted) of .003 was found for the study. This indicates that the variation in teachers' gender accounted for by their supervision was .002%. The regression data for the study produced an F-value of 3.225 which was found not to be significant at $df = (1,995)$, $F = 3.225$, $P > .05$ level of significance. Therefore, the null hypothesis which stated that teachers' gender is not significantly related to their teaching effectiveness was accepted. The conclusion reached was that teachers' gender is not significantly related to their teaching effectiveness in public secondary schools in Delta State.

Research Question 3: How does teachers' educational qualification predict their teaching effectiveness?

Hypothesis 3: Teachers' educational qualification does not significantly predict their teaching effectiveness

Table 10: Relationship between Teachers' Educational Qualification and their Teaching Effectiveness

R	R. Square	Adjusted R. Square	Std. Error of the Estimate		
.099	.010	.009	5.978		
ANOVA					
	Sum of squares	Df	Mean square	F	
Regression	354.954	1	354.954	9.932	.002
Residual	35560.980	995	35.740		
Total	35915.934	996			
Coefficient					
	Unstandardized coefficient		Standardized coefficient		
	B	Std. Error	Beta	t	significant
Teachers supervision (constant)	-.694 90.151	.220 .474	-.099	-3.151 191.664	.002 .000

P < .05 level of significance

From the Table above, the research question 3 was answered in the affirmative. The results of the analysis shows that the regression coefficients of .099 significant at $P < .05$ was found for the study. A coefficient of determination R^2 (adjusted) of .010 was found for the study. This indicates that the variation in teachers' educational qualification accounted for by their supervision was .009%. The regression data for the study produced an F-value of 9.932 which was found not to be significant at $df = (1,995)$, $F = 9.932$, $P < .05$ level of significance. Therefore, the null hypothesis which states that teachers' educational qualification is not significantly related to their teaching effectiveness was rejected. The conclusion reached was that teachers' educational qualification is significantly related to their teaching effectiveness in public secondary schools in Delta State.

Research Question 4: How does teachers' teaching experience predict their teaching effectiveness?
Hypothesis 4: Teachers' teaching experience does not significantly predict their teaching effectiveness.

Table 11: Relationship between Teachers' Teaching Experience and their Teaching Effectiveness

R	R. Square	Adjusted R. Square	Std. Error of the Estimate		
.085	.010	.006	5.002		
ANOVA					
	Sum of squares	Df	Mean square	F	
Regression	69.738	1	69.738	8.936	.004
Residual	35846.196	995	36.026		
Total	35915.934	996			
Coefficient					
	Unstandardized coefficient		Standardized coefficient	t	significant t
	B	Std. Error	Beta		
Teachers supervision	-.324	.233	.044	-2.391	.004
(constant)	90.196	.497		181.586	.000

P < .05 level of significance *N* = 997

As shown in Table 11, the research question 4 was answered in the affirmative. The results of analysis showed that the regression coefficients of .085 significant at *P* < .05 was found for the study. Moreover, a coefficient of determination *R*² (adjusted) of .006 was found for the study. This indicates that variation in teachers' teaching experience accounted for their supervision was .085%. The regression data for the study produced an *F*-value of 8.936 which was found not to be significant at *df* = (1,995), *F* = 8.936 *P* < .05 level of significance. Therefore, the null hypothesis which stated that teachers' teaching experience was not significantly related to their teaching effectiveness was rejected. The conclusion reached was that teachers' teaching experience significantly correlates with their teaching effectiveness.

Research Question 5: How does teachers' age predict their teaching effectiveness?
Hypothesis 5: Teachers' age does not significantly predict their teaching effectiveness.

Table 12: Relationship between Teachers' age and their Teaching Effectiveness

R	R. Square	Adjusted R. Square	Std. Error of the Estimate		
.066	.004	.003	5.995		
ANOVA					
	Sum of squares	Df	Mean square	F	
Regression	157.702	1	157.702	4.338	.036
Residual	35758.232	995	35.938		
Total	35915.934	996			
Coefficient					
	Unstandardized coefficient		Standardized coefficient	t	significant
	B	Standard Error	Beta		
Age (constant)	-.606	.290	-.066	-2.095	.036
	90.908	.672		135.275	.000

P < .05 level of significance

From Table 12 above, the research question 5 was answered in the affirmative. Here, the results of the analysis showed that the regression coefficient of .066 significant at *p* < .05 was found for the study. A coefficient of determination *R*² (adjusted) of .003 was also found for the study. This indicates that the variation in teachers' age accounted for by their supervision was .003%. The regression data for the study produced an *F*-value of 4.388 which was found to be insignificant at *df* = (1,995), *F* = 4.338, *P* < .05 level of significance. Therefore, the null hypothesis which stated that there is no significant relationship between teachers' age and their teaching effectiveness was rejected. The conclusion reached was that teachers' age significantly correlates with their teaching effectiveness in public secondary schools in Delta State.

Research Question 6: How does teachers' location predict their teaching effectiveness?
Hypothesis 6: Teachers' location does not significantly predict their teaching effectiveness.

Table 13: Relationship between Teachers' Location and their Teaching Effectiveness

R	R. Square	Adjusted R. Square		Std. Error of the Estimate	
.014	.000	.000		6.007	
ANOVA					
	Sum of squares	Df	Mean square	F	
Regression	6.696	1	6.696	.186	.667
Residual	35909.237	995	36.090		
Total	35915.934	996			
Coefficient					
	Unstandardized coefficient		Standardized coefficient		
	B	Std. Error	Beta	t	significant
Location (constant)	-.166 89.825	.385 .650	-.014	-.431 138.178	.667 .000

P < .05 level of significance *N* = 997

As shown in Table 13, the research question 6 was answered in the affirmative. The results of the analysis showed that the regression coefficient of .014 was not significant at *P* > .05 was found for the study. A coefficient of determination *R*² (adjusted) of .000 was also found for the study. This indicates the variation in teachers' location accounted for by their supervision was 0%. The regression data for the study produced an *F*-value of .186 which was found not to be significant at *df* = (1,995), *F* = .186, *P* > .05 level of significance. Therefore, the null hypothesis which stated that teachers' location do not significantly correlate with their teaching effectiveness was accepted. The conclusion reached was that teachers' location do not significantly relate to their teaching effectiveness in public secondary schools in Delta State.

Research Question 7: How does teachers' marital status predict their teaching effectiveness?

Hypothesis 7: Teachers' marital status does not significantly predict their teaching effectiveness.

Table 14: Relationship between Teachers' Marital Status and their Teaching Effectiveness

R	R. Square	Adjusted R. Square		Std. Error of the Estimate	
.001	.000	.001		6.008	
ANOVA					
	Sum of squares	Df	Mean square	F	
Regression	0.73	1	0.73	.002	.964
Residual	35915.861	995	36.090		
Total	35915.934	996			
Coefficient					
	Unstandardized coefficient		Standardized coefficient		
	B	Std. Error	Beta	t	significant
Marital Status (constant)	.017 89.533	.389 .579	-.001	.045 155.529	.964 .000

P < .05 level of significance *N* = 997

As shown in Table 14, the research question 7 was answered in the affirmative. The table above showed that the regression coefficient of .001 not significant at *P* > .05 was found for the study. Again, coefficient of determination *R*² (adjusted) of -.001 was also found for study. This indicates that the variation in teachers' marital status accounted for by their supervision was -.001%. The regression data for the study produced an *F*-value of .002 which was found to be insignificant at *df* = (1,995), *F* = .002, *P* > .05 level of significance. Therefore, the null hypothesis which stated that marital status do not significantly correlate with teachers' effectiveness was accepted. The conclusion reached was that supervision of teachers' marital status is not significantly related to teachers' effectiveness in public secondary schools in Delta State.

3.1 Supervision of Teachers and their Teaching Effectiveness

The results of the study showed that there was a significant relationship between supervision of teachers' and their teaching effectiveness. The proportion of variance in teachers' effectiveness accounted for by their supervision was 33.8%. This finding was in line with the view of [27], that supervision has been discovered to be a vital element of management, which permeates all other aspects because no manager can afford to wait till the end of production process before embarking on supervision. [4], and [13] also adds that in the process of activities within the school, there is need for check and balances to ascertain the level of conformity with the goals set and ways of achieving them. In the same vein, supervision is a critical element of professional growth and development [13].

3.2 Teachers' Gender and their Teaching Effectiveness

The study also revealed that there was no significant difference between the impact of supervision on the male and female teachers' effectiveness. This finding agreed with [21], that the school system comprises of teachers, learners, and administrative staff, who work towards attaining the same goals. Hence, irrespective of gender, once they are subjected to the same form of supervision one cannot expect any much difference in their effectiveness.

3.3 Teachers' Educational Qualification and their Teaching Effectiveness

Similarly, the study came up with a finding that teachers' educational qualification significantly relates to their teaching effectiveness. [19], identified a number of directly observed teacher characteristics that are linked to teacher quality and performance. Stating that, students do better in mathematics if taught by a teacher with a bachelor's or master's degree in mathematics which showed that teacher knowledge of specific subject matter particularly at the secondary level was a good predictor of student achievement.

3.4 Teachers' Teaching Experience and their Teaching Effectiveness

Another important finding of this study was that there was a significant relationship between teachers teaching experience and their teaching effectiveness. [32], asserted that inter-school visitation techniques gives opportunity to various categories of teachers to visit other teachers in the classroom, thus helping the beginner teachers to learn how to organize and manage students in the classroom and to plan effectively. The weak teacher can also be helped through observation of classroom management, good methods and effective utilization of resources in this field. Other benefits the programme will generate includes: it will give opportunity to a beginner teacher to see a supervisor or experienced teacher in action. It will give the beginner teacher an insight into proper classroom management, help the weak teacher to improve his teaching skills, and finally, give the experienced or master teacher the opportunity to share ideas with other experienced teachers, thus enriching their teaching experience.

3.5 Teachers' Age and their Teaching Effectiveness

The study also revealed that teachers' age significantly correlates with their teaching effectiveness. This was in agreement with the view of [33] which stated that "the physical, emotional and material needs of a teacher vary in relation to the age of the teacher". That is to say that age could be a factor for effectiveness. Teachers who are above 50 years may find it difficult to use modern teaching aids and facilities, copy notes on the chalkboard and sometimes may find difficulty in standing for 45 minutes. While younger teachers through vast in the use of modern facilities may be inexperienced in classroom management.

3.6 Teachers' Location and their Teaching Effectiveness

Another finding of this study was that there was no significant relationship between the supervision of teachers' location and their teaching effectiveness. This finding agreed with the views of [35], [13], [3] and [29] which buttressed the principles that supervision is a cooperative, team-type service that should help interpret and put into practice the latest findings of educational research for teachers irrespective of their school location.

3.7 Teachers' Marital Status and their Teaching Effectiveness

Finally, the study came up with yet another finding that teachers' marital status was not significantly related to their teaching effectiveness. The finding was in agreement with [21], that the school system is comprised of teachers, learners, and the administrative staff, who work towards attaining the same goal, irrespective of marital status.

IV. Conclusion

In conclusion, supervision has been discovered to be a vital element of management. As the education industry is witnessing professionalism, supervision aids the teacher in seeing more clearly the goals and objectives of education set by the government. Therefore, there is the need for principals to supervise their teachers properly for service efficiency because, it is a critical component in professional development.

However, the study also discovered that effective teachers are teachers that are properly supervised by their principals and this in turn, helps in producing students of higher academic performance. Hence, school principal(s) should ensure that supervisory approach is void of interpersonal tension and dissatisfaction among teachers, and they should be guided on how to carry out their assignment and the techniques to do it.

In the same vein, teachers' teaching experience was seen as important characteristics for teachers' effectiveness. This was in line with [32] asserting that beginner or inexperienced teachers should be given opportunity by their supervisors to visit older (experienced) teachers in their classrooms so as to help them learn how to organize and manage students in the classroom and to plan effectively.

The inexperienced teacher can also be helped through observation of classroom management, good methods and effective utilization of resources in his field. To this end, experienced teachers or master-teacher will be given the opportunity to share ideas with other experienced teachers and thus enrich their teaching experience.

The study came up with findings that teaching personnel is made up of the experienced and inexperienced or beginner teachers. If beginner teachers are not helped to develop themselves through inter-school visitation technique of supervision, these inexperienced teachers may not be able to carry out their duties effectively, and most public secondary school do not have room for inter-school visitation. This knowledge have implication to principals, vice-principals of public secondary schools in Central Senatorial District of Delta State.

The study established that supervision is a vital and critical element of teaching effectiveness. The study has also been able to establish that teachers' educational qualification is a good predictor for students' achievement.

In the light of this, supervision should be a continuous process in our educational system. In order to ascertain and improve teachers' efficiency and effectiveness, various methods of supervision should be operated within the legal limits i.e., in accordance with educational policies edicts and laws.

Also, Ministry of Education as one of the supervisory agents in the education industry should ensure that visitations are made to all schools, periodically and randomly to correct abnormalities and listen to teachers' complaints with a view to preferring on-the-spot solutions where possible.

Reference

- [1] Adediwura, A.A. and Tayo, B. (2007). Perception of Teachers Knowledge Attitude and Teaching Skills as Predictor of Academic Performance in Nigeria Secondary Schools. Educational Research and Review.
- [2] Adegboyega, A. (2005). Collected Essays on Nigeria Education. Lagos. Horizon Books.
- [3] Adeleke, M.O. (2004). The Principles and Practice of Teaching. Lagos: Basic Books Publishers.
- [4] Adu, E.O. Olatundun, S.O. (2007). Teachers' Perception of Teaching Correlates of Students' Academic Performance in Oyo State Nigeria. Essays in Education.
- [5] Ajibade, E.S. (1993). The Supervisory Grid: A Practical Guide to Instructional Supervisors in Schools. Ibadan: Emia Publications.
- [6] Alii, A.A. (2004). Supervision: A synthesis of thoughts and actions. Educational Leadership.
- [7] Arinze, B.J. (2004). The School Supervision. A monograph, Department of Education, University of Nigeria, Nsukka.
- [8] Babayemi, A. (2006). Principalship, Educational Management: Thoughts and Practice. Ibadan: Codat Publications.
- [9] Beach, D.M. and Jduy, R. (2000). Supervisory Leadership: Focus on Instruction. Boston: Allyn and Bacon Publishers.
- [10] Bernard, B.K. (2001). Educational Supervision. A phase of Administration. London: Allyn Bacon Inc.
- [11] Butin, D. (2004). The Foundation of Preparing Teachers; Is Education Schools Really Intellectually Barren and Ideological? Teachers College Record.
- [12] Cluegh, J.T. (2006). Functional Approach to School Administration. New York: McGraw Hill.
- [13] Davies, E.S. (2003). The nature of Educational Supervision. Paris: IIEP.
- [14] Egwunyenga, E.J. (2005). Essentials If School Administration. Benin City: Justice-Jeco Publishers
- [15] Fafioye, R.A. (2004). Principles and Practice of Education. Ibadan: Board Publications.
- [16] Federal Ministry of Education, Science and Technology (2006). A Handbook on Continuous Assessment. Ibadan: Heinemann Educational BCS.
- [17] Federal Republic of Nigeria (2004). National Policy on Education. Lagos: NERDC Press.
- [18] Foster, G.G. (2004). Educational Supervision. A Guide for the Practitioner. London: University Press.
- [19] Goldhaber, D.D. and Brewer, D.J. (2002). Does Teacher Certification Matter? High School Teacher Certification Status and Student Achievement.
- [20] Jacob, B. and Lafgren, L. (2006). When Principals Rate Teachers. Education Next. Hoover Institution. Retrieved on March 5, 2006 from <http://www.educationnext.org/2006/58.html>.
- [21] Kuforiji, B.S. (2000). Supervision of Instructional Programmes. In A.A. Olatunde (Ed.) Educational Administration and Supervision. Ibadan: Board Publications.
- [22] Marchand, M.P. (2006). Supervision for better schools. New York: Prentice HALL Inc.
- [23] Merfon, C.B. (2002). The nature of Educational Planning process. New York: McGraw Hill.
- [24] Nakpodia, E.D. (2006). Educational Administration (A New Approach) 2nd Edition, Warri: Jonokase Nig. Co.
- [25] Nwokafor, C. (2003). Educational Administration: Concepts, Practices and Issues. Onitsha: CAS Publishers.
- [26] Obaikpor, H. (2002). Leadership types among secondary school principals in Abia State. Journal of Educational Research.
- [27] Obed, I.O. (2003). Discovering Teaching. Enugu: Fourth Dimension Publishing Co.
- [28] Obiodoa, M. (2006). Enhancing the Instructional Supervisory Skills of Principals of Secondary Schools. Principals Year Book. A Publication of all Nigerian Conference of Principals of Secondary Schools (ANCOPS). Nsukka, Nigeria: Moke Social Publishers.
- [29] Odueso, O.A. (2006). The effect of Supervision on Teachers Effectiveness. A Case Study of selected secondary schools in Sagamu. Unpublished B.Ed. project, Tai Solarin University of Education, Ijebu-Ode.
- [30] Ofoegbu, F.I. (2004). Teacher Motivation: A factor for classroom effectiveness and school improvement in Nigeria. Gale Group.
- [31] Ojo, K. (1999). Administration and Management of Secondary Education in Ekiti State-our experiences and anxieties. Effective Management of Secondary Schools: The Principal's Challenge. Ibadan: Adeose Publications.
- [32] Onoyasu, D. (2007). Theory and Practice of Educational Administration. 2nd Edition. Warri: Johnny Co.
- [33] Onyeachu, A. (1996). Relationship between working conditions and teacher effectiveness zone of Abia State. M.Ed Dissertation, Unpublished, Port Harcourt: University of Port Harcourt, Nigeria.
- [34] Oredein, A.O. (2000). Leadership Characteristics and Personnel Constraints as Factors of School and Industrial Effectiveness. PhD. Thesis, Unpublished, Ibadan: University of Ibadan, Nigeria.
- [35] Oshungboye, D. (2001). Instructional Personnel Supervision in Schools. In K.O. Jaduola (Ed). Reflections on School Organization and Management. Lagos: Furtunate Books Publishers.

- [36] Pajak, E. (2000). *The Central Office Supervisor of Curriculum and Instruction: Setting the Stage for Success*. Boston: Allyn and Beacon Publishers.
- [37] Peretomode, V.F. (1995). *Introduction to Educational Administration Planning and Supervision*. Ikeja: Joja Educational Research and Publishers Ltd.
- [38] Robinson, A.R. and Dessler, B.H. (2002) *Principles and Practice of Teaching*. London: George Allen and Unwin Ltd.
- [39] Schacter, J. and Thum, Y.M. (2004). *Paying for High and Low Quality Teaching Economics of Education Review*.
- [40] Seiznick, H.C. (2002). *Administration of Public Education*. Singapore: Longman Publishrs. Thompson, G.J. and Rebore, M.N. (2003). *Job Satisfaction as a predictor of workers productivity*. *Management Review*.
- [41] Starr, L. (2002). *Measuring the Effects of Effective Teaching Education World*. Retrieved October 16, 2005, From www.education-world.com/a_issues.shtml.
- [42] Uyanga, R.E. (2007). *The Principal and Education Reform Agenda of the Nigerian Economic Empowerment Development Strategy (NEEDS) and the Millennium Development Goals (MDGs). The principals and Education reforms in Nigeria. A publication of the mandatory continuity professional training (MCPT) Programme of the All Nigerian Conference of Principals of Secondary Schools (ANCOPSS)*
- [43] West African Examination Council (2004). *Chief Examiners Report: WASSCE May/June 2004 Lagos: WAEC*.