

## SECONDARY SCHOOL SCIENCE TEACHERS' CLASSROOM MANAGEMENT PRACTICES AS CORRELATE OF STUDENTS' PERFORMANCE IN MINNA, NIGER STATE

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**Abstract:** *The study was conducted to determine the relationship between Secondary School Science Teachers' Classroom Management Practices and Students' Performance in Minna, Niger State, Nigeria. Secondary school Science teachers and students used for this study are Biology, Chemistry, Physics and Mathematics teachers and students. The study was guided by one research question and had a corresponding hypothesis. Correlational research design was used for the study. A total of one hundred and twenty three (123) Science teachers and three hundred and eighty five (385) Science students made up the sample size of the study. Instrument used for data collection from Science teachers is a Likert type questionnaire designed by the researchers and titled "Science Teachers' Classroom Management Practices Questionnaire (STCMPQ)" The instrument was validated by experts and its reliability coefficient was also determined to be 0.73 using Cranach Alpha statistical tool. Data collected from Science teachers was correlated with SSIII Science students' Mock examination result conducted by Niger State Ministry of Education (NSMOE) during 2022/2023 academic session to establish a relationship. Findings of the study revealed a significant relationship between Science teachers' classroom management practices and students' performance. Based on this finding, it was recommended that, Government should intermittently expose Science teachers to training and retraining programs through seminars, conferences and workshops so as to improve their classroom management practices or skills.*

**Keywords:** *Classroom, Examination, Mock, Performance, Science, Students, Teachers and Secondary Schools*

### Introduction

Science subjects perform interdisciplinary functions purposely for the satisfaction of man most especially on the growth and development of an individual and a nation. Because of the importance of the knowledge of Sciences generally, it is now a policy in Nigeria that no candidate can get admission into any higher institution of learning for science related courses without a credit pass in all science subjects. This is one of the reasons why all Science subjects are made a core and compulsory subjects at both primary and secondary schools in Nigeria. This interdisciplinary role of Sciences has made Nigeria government to attach much importance to Science subjects as clearly emphasized in the national policy on education (FRN, 2014). Unfortunately, it is disheartening to observe that despite the importance attached to the study of Science subjects by government and mathematics stakeholders, students still records low performance in Sciences especially at SSCE level (Gaudence *et. al*, 2013). The issue of perpetual students' low or poor performance in Science has become so worrisome to many individuals, researchers, government, as well as many organizations. In an attempt to address this challenge, a number of research studies have been conducted and researchers have identified among other factors that could be responsible for students' poor performance in Science subjects to include Science teachers' classroom management techniques. This study therefore was conducted to find out whether Science teachers' classroom management practices have a positive or negative relationship with students' performance.

Every classroom teachers is expected to effectively and efficiently manage his or her classroom during teaching. A teacher is expected to apply courageous and motivational techniques in maintaining discipline in the classroom during classroom instruction. Classroom management therefore, can simply be referred to as a process of maintaining discipline in the class during teaching by a teacher through the use of different techniques. Effective classroom management can provide a favourable atmosphere for effective and efficient learning. It can also help in making

learning more meaningful as communication between teachers and students would be clearer (Rahman *et al.*, 2014). By implication therefore, effective classroom management is seen as a psycho-social process that put teachers and students into an effective academic relationship. Effective classroom management is important and can be used as a means of having a conducive environment of conveying knowledge, skills, feelings and thoughts from teachers to students using empathy and respect effectively either through body language or through other means understandable by the students. Effective classroom management helps in building as well as fulfilling relationships that makes learning easy, meaningful, effective and efficient. A teacher being a centre of changes in education needs to maintain discipline in his classroom in order to be able to impart knowledge and skills to the students efficiently, effectively and successfully.

For this reason, teachers must continually undergo refresher courses or programs so as to improve on their classroom management techniques for effective instructional (Koroka *at al.*, 2018). Teachers must be ready to learn and become well developed in terms of ability to manage his or her classroom and maintaining discipline of students during teaching effectively. This is because, the teacher's personality traits has a significant impact on students. No matter how effective a teacher is, the way and manner he manages his classroom go a long way in determining how the objectives of his lesson would be realized. Effective classroom management abilities of teachers during teaching make it easier for the students to comprehend or understand what they are being taught. Subsequently, there will be an improvement in their performance at the final examinations. This fact therefore necessitates the need to have a look at teachers' classroom management techniques or style if objectives of teaching and learning are to be fully achieved. This study was therefore conducted to determine if Science teachers' classroom management techniques can be a correlate of secondary school students' performance in Minna, Niger State

### **Statement of the Problem**

Science subjects perform interdisciplinary functions for the satisfaction of man most especially on the growth and development of an individual and a nation. Because of the importance of the knowledge of Sciences generally, it is now a policy in Nigeria that no candidate can get admission into any higher institution of learning for science related courses without a credit pass in all science subjects. This is one of the reasons why all Science subjects are made a core and compulsory subjects at both primary and secondary schools in Nigeria. This interdisciplinary role of Sciences has made Nigeria government to attach much importance to Science subjects as clearly emphasized in the national policy on education (FRN, 2014). Unfortunately, it is disheartening to observe that despite the importance attached to the study of Science subjects by government and mathematics stakeholders, students still records low performance in Sciences especially at SSCE level (Gaudence *et. al*, 2013).

The issue of perpetual students' low or poor performance in Science has become so worrisome to many individuals, researchers, government, as well as many organizations. In an attempt to address this challenge, a number of research studies have been conducted and researchers have identified among other factors that could be responsible for students' poor performance in Science subjects to include Science teachers' classroom management techniques employed by teachers especially science teachers. As a step towards addressing this challenge, this study was designed to find out whether Science teachers' classroom management techniques can serve as correlate of secondary school students' performance in Minna, Niger State. Findings of the study would at the end be used as contribution to the existing knowledge on the relationship between secondary school Science teachers' classroom management practices and students' poor performance in Minna, Niger State.

### **Purpose of the Study**

1. determining the relationship between secondary school Science teachers' classroom management practices and students' performance

### Research Question

The following corresponding research question was raised to guide the study:

1. what is the relationship between secondary school Science teachers' classroom management practices and students' performance?

### Research Hypothesis

The following corresponding research question was formulated and tested at 0.05 level of significant:

**H<sub>01</sub>:** There is no significant relationship between secondary school Science teachers' classroom management practices and students' performance

### Methodology

This research study employed the use of correlational research design where Senior Secondary three (SS III) Science students' Mock examination result conducted by Niger State Ministry of Education NSMOE during 2022/2023 academic session was correlated with the data collected on the Science teachers' classroom management practices to establish a relationship. Science teachers and students used for this study are Biology, Chemistry Physic and Mathematics teachers and students. Total target population for this study comprises of three hundred and seventy five (375) Science teachers and one thousand, seven hundred and nineteen (1,719) students respectively in Minna, Niger State during 2022/2023 academic session. Simple random sampling technique was employed for this study and a total of six (6) public secondary schools were randomly selected and used for the study. The study used all the Science teachers teaching in all the selected schools and all the SS III Science students of the same selected schools that sat for Mock examination conducted by NSMOE (during 2022/2023 academic session).

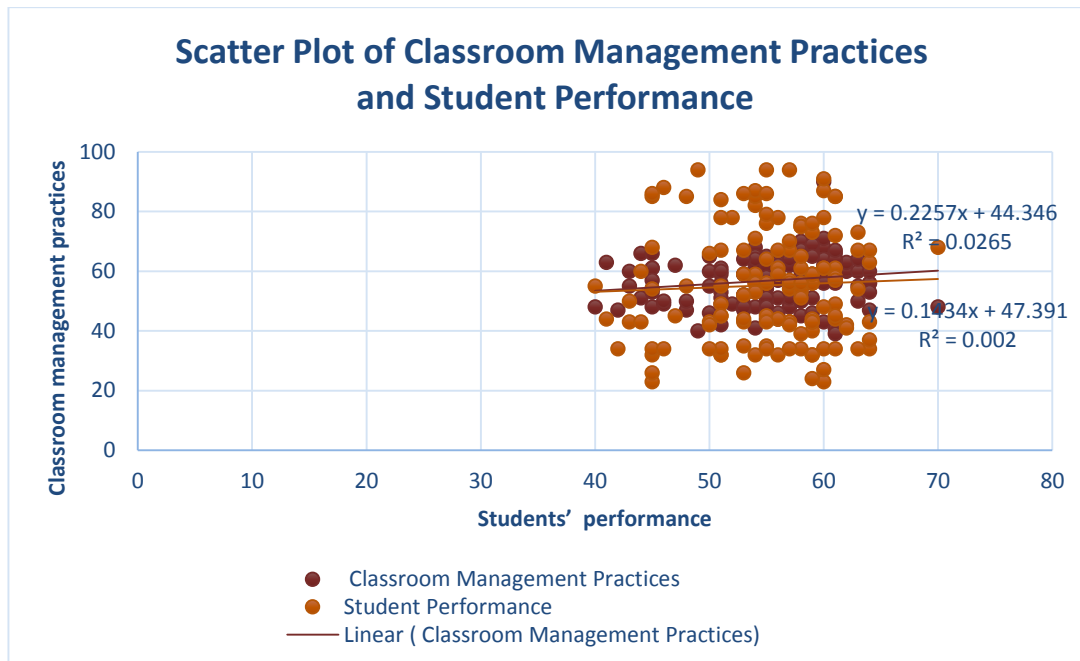
To obtain the Science teachers' sample size, all the one hundred and twenty three (123) Science teachers from the six (6) sampled schools were used. In addition, all the three hundred and eighty five (385) Science students that sat for the promotion examination (in 2022/2023 academic session) in all the six sampled schools formed the sample size of the students. SSIII students' promotion examination result was used because it was conducted by Niger State Ministry of Education (NSMOE) since it is already a standardized examination result. The already existing promotion examination result (ex-post facto) of all the three hundred and eighty five (385) SS III students was used. By implication, the Science students' promotion examination result was correlated with Science teachers' response on classroom management practices questionnaire to establish the relationship between Science teachers' classroom management practices and students' performance.

Research instrument used for this study is a Likert type questionnaire designed by the researchers for the purpose of this study. The questionnaire was titled "Science Teachers' Classroom Management Practices Questionnaire (STCMPQ)" The questionnaire consists of two sections (A and B). Section A is about the Science teachers (respondents) bio-data while section B contained fifteen (15) items question items on Science teachers' classroom management practices. In this section, the teachers were expected to express their opinions or views about Science teachers' classroom management practices. The questionnaire was based on a 4 - point scale with responses and weighing ranging from Completely Responsible (CR) = 4, Mostly Responsible (MR) = 3, Partially Responsible (PR) = 3 and Not Responsible (NR) = 1 with decision mean of 2.50. The questionnaire was validated by three (3) experts in the areas of Science Education as well as Test and Measurement. The experts' corrections, suggestions and observation were used by the researchers to produce the final copy of the instrument.

A pilot test was carried out to determine the reliability of the instrument using 20 Science teachers. The data collected was analyzed using SPSS 23 software. Cranach's Alpha statistical tool was used and reliability coefficient of 0.73 was obtained. During data collection, the researchers visited the authorities of the sampled schools to seek for permission to use the schools for research study. Permission was granted and the researchers were introduced to staff and specifically, the Science

teachers. The researchers then gave an orientation to the Science teachers, selected the research assistants and thereafter, trained the research assistants about the research study.

**Results**



**Figure 1: Scattered Plot of the Relationship between Science teachers’ Classroom Management practices and students’ performance**

Figure 1 is a scattered plot of the relationship between Science teachers’ classroom management practices and students’ performance.

**Table 1: Linear Regression Model Summary on the Relationship Science Teachers’ Classroom Management Practices and Students’ Performance**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.602 <sup>a</sup>	.362	.358	36.240

Predator (Constant): Science Teachers’ Classroom Management Practices

Table 1a shows linear regression model summary of the independent variable (Predator) which is Science teachers’ classroom management practices and the dependent variable (Criterion) which is students’ performance. The result shows the calculated  $F(1,140) = 0.602$ ,  $r^2 = 0.362$ . The  $r^2$  value of 0.362 indicated that 36.2% of the variance in students’ performance is accounted by Science Teachers’ Classroom Management Technique. To determine whether there is a significant relationship between Science Teachers’ Classroom Management Practices and students’ performance, the regression coefficient is presented in Table 1b.

**Table 1b. Regression Coefficient of Science Teachers’ Classroom Management Practices and Students’ Performance**

Variable	Unstandardized Coefficients	Standardized Coefficients	t	Sig
	B	Std. Error	Beta	
(Constant) Science teachers’ classroom management practices	97.312	62.321	1.801	0.431
	0.602	0.911	-0.812	0.001
			0.561	

Dependent variable: Students’ Performance

Table 1b shows the regression coefficient of Science teachers' classroom management practices and students' performance. The result reveals a significant relationship between Science teachers' classroom management practices and students' performance ( $B = 0.602$ ,  $t = 0.812$ ,  $P (0.001) < 0.05$ ). The regression coefficient indicates that for any increase in one unit of Science teachers' classroom management practices will predict an increase in 0.602 units of students' performance when all other factors or variables remain constant in this particular population used for the study. This implies that, increase in Science teachers' classroom management practices will result in increase in students' performance hence, the research hypothesis which states that, 'there is no significant relationship between Science teachers' classroom management practices and students' performance' is not accepted.

### **Discussion of Finding**

The findings on the research hypothesis revealed a significant relationship between Science teachers' classroom management practices and students' performance. The finding is not in line with the findings of Kupari and Nissinen (2014), who carried out a comparative study on classroom management techniques among government and private schools. They found that there was no significant relationship among the teachers in their classroom management techniques with respect to their medium of teaching. It was therefore inferred that there was no significant relationship among the teachers in their classroom management techniques with respect to their type of schools. On the other hand, the finding is in line with that of Abouaeid (2014) who conducted a research to analyse the relationship between candidate teachers' classroom management and communication skills and their attitudes towards teaching profession. The study found that there is a significant correlation in a positive way between communication ability or skills and affection sub-dimension; between communication ability and harmony sub-dimension; and between communication skills and attitude towards teaching profession all in a well managed classroom.

### **Conclusion**

From the finding of this study, it was concluded that, there was a significant relationship between Science teachers' classroom management practices and students' performance.

### **Recommendation**

Based on the above finding, it is recommended that School authorities should encourage Science teachers to fully participate in training and retraining programs like seminars, workshops, conferences as well as in the marking exercise of the standardized examinations organized by examination bodies like WAEC, NECO and NABTEB. This will help the Science teachers improve their classroom management practices as they have direct relationship with students' performance.

### **References**

- Abouzeid, A. A. (2014). Evaluating the Communication Skills for Teachers of Business Subjects in Secondary Education in the Kingdom of Bahrain. *Journal of Educational & Psychological Sciences*, 15(01), 669-695.
- Federal Republic of Nigeria (FRN), (2014). *National Policy on Education*. Lagos: Federal Government Press.
- Gaudence, O., Too, J. K., & Nabwire, V. K. (2013). Enhancing Learning of Geography: A Focus on Video Use. *International Journal of Educ. & Soc. Science*, 4, 277-288.
- Koroka, M. U. S., Aliyu, N. M., Yakubu, S. E., Duru, P. T. & Amina, J. Y. (2018). Impact of Realia Instructional Material on Academic Achievement among Secondary School Biology Students in Lapai Metropolis of Niger State. *Proceedings of the 6<sup>th</sup> International Conference of*

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- Kupari, P., & Nissinen, K. (2014). Background factors behind mathematics achievement in Finnish education context: Explanatory models based on TIMSS 1999 and TIMSS 2011 data. *Journal of Educational & Psychological Sciences*.15 (1), 669-695.
- NGSMOE (2020, 2021 & 2022). Nigger State Ministry of Education, Minna, Department of Planning, Research and Statistics
- Rahman, N. A. A. A., & Lee, M. F. N. (2014). Communication in teaching and learning mathematics: Teachers' perspective. *American Institute of Physics Conference Proceedings*, 1605(1), 730-733.
- Sanchez, H. & Halet, (2017). Who studied teachers classroom anxiety: A case study of Immigrant In-Service Teachers of English East Asia. 111- 125. Retrieved from [www.researchgate.net](http://www.researchgate.net)