

# **RELATIONSHIP BETWEEN EFFECTIVE CLASSROOM MANAGEMENT AND STUDENTS' ACADEMIC PERFORMANCE IN BIOLOGY IN ANAMBRA WEST L.G.A. OF ANAMBRA STATE, NIGERIA**

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**Abstract.** This study investigated the relationship between effective classroom management and students' academic performance in biology in senior secondary schools in Anambra West Local Government Education Authority (LGEA) of Anambra State, Nigeria with a view to knowing the management strategies teachers do use predominantly in classroom as well as teachers' abilities towards managing it effectively. The study adopted descriptive correlational design and 100 students drawn across five schools in the LGEA. The sample was drawn through stratified random sampling. Structured questionnaire was the instrument for data collection and its validity as well as reliability established using Crombach alpha coefficient and the index was 0.84. Mean and standard deviation were used in answering the research questions while Pearson product moment correlation analysis was used in testing the hypotheses. The

result indicated positive and weak relationship between the independent and dependent variables.

*Keywords:* classroom management, academic achievement, biology

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## **Introduction**

Classroom is the meeting point for both teachers and students where curriculum activities are implemented. Educational objectives cannot be fully achieved without the use of conducive classroom environment. The classroom is characterized by a network of interpersonal relationships directed at the attainment of educational goal. Good classroom environment must be well ventilated, fully supplied with chairs and desks have adequate spatial arrangement, have sizeable chalkboard, good floors, beautiful walls and lightening (Okeke, 2015). These are subjected to good management in order to encounter a great achievement height of educational set-objectives.

Management as a concept connotes different meanings to different people. Some school of thoughts view management as a group of individuals who have the responsibility to run an enterprise while others such as Adu et al. (2014) defined educational management as the coordination of the resources made available to education through the process of planning, organizing, directing and controlling in order to achieve educational goals and objectives.

The wider view of classroom management according to Bassey (2005) shows increased engagement, reduction in inappropriate and disruptive behaviors, promotion of students' responsibility for academic work, and improved academic performance of students. In effect, discipline, control and consequences become authoritative or punitive approaches to classroom management. Classroom management refers to some forms of arrangement and coordination that go on in the classroom setting. Wherever activities are not recognized, there will be confusion and chaos. The classroom buildings, student's furniture and facilities, all of which must be properly arranged and coordinated

for the comfort of the learners and effective teaching and learning process to take place. Classroom management is created and motivated by the teacher and the way a class is managed shows the type of relationship that exists between students and teachers. It should be noted that from these definitions that management is a universal phenomenon because management functions are identical in all formal organization, be it a profit-making or non-profit making organization

Teachers are managers of the classroom because they perform managerial functions as they plan teaching activities, organize students and materials, co-ordinate, direct, motivate, counsel and evaluate students in order to bring about successful teaching-learning process in the school system. Effective teaching and learning cannot take place in poorly managed classrooms (Jones & Jones 2012). Adeyemo (2012) added that effective teaching and learning process cannot be achieved without proper classroom management. It includes all the things teachers must do in the classroom to foster students' academic involvement and cooperation in classroom activities and to create conducive learning environment. Morse (2014) opines that classroom management involves the teachers' ability to curtail his or her learner's disruptive behaviors such as fighting and noise making, close observation, arrangement of classroom learning materials, and response to students who suffer from poor sight (vision), poor reading, poor writing, poor spelling, shame, dullness, hyperactivity and poor study habits. In the same vein, Pane (2010) defined classroom management as the process whereby human and material resources are organized, students motivated and inspired, and a cooperative working environment is created to accomplish set educational goals and objectives. From the foregoing, classroom management can be summed up as the utilization of material resources and securing the cooperation of pupils or students for performing the functions of planning, organizing, directing, and co-coordinating at classroom levels by teachers.

However, management of the classroom not only involves all activities put in place by the teacher but with the school-heads to ensure effective teaching-learning process in the classroom. Effective classroom management strategies support and facilitate effective teaching and learning and generally, based on the principle of establishing a positive classroom environment, encompassing effective teacher and student relationships. It focuses on preventive rather than reactive classroom management procedures. The commonly used preventive strategy among the teachers in the secondary education sector is that they negotiate classroom rules instead of imposing it, they also constantly use reactive strategies, for example, punishing disruptive students (Shook 2012; Rydell & Henricsson, 2014), whereas it is ambiguous if these strategies effectively change student behaviours which may be as a result of inadequate knowledge about the effectiveness of particular strategies despite ample empirical evidence that the strategy has been successfully implemented in many classrooms (Smart & Brent, 2010).

On the other hand, the use of coercion by teachers through punitive strategies affects learning negatively (Rahimi & Karkami 2015). Adams & Ray, (2016) raised fundamental questions that may be responsible for disruptive behaviours in the class. Is the cause from the school/ class environment? Is it from the child? Or is it from the teacher? These questions need to be addressed because disruptive behaviours are inappropriate behaviors which interfere with the academic and administrative activities of a school. These behaviors commonly identified by teachers includes; bullying, hitting, names calling, sleeping in class, verbal or physical threat to students or teachers, prolonged chatting, and excessive lateness, unexcused exit from class, eating in the class etc (Rahimi & Karkami, 2015).

These behaviors may persistently or grossly interfere with the academic learning of the school, making it difficult for both learners and teachers to function effectively and efficiently. Learners who are disruptive have been observed not only to cause a lot of problems to their class mates and teachers, but are

mostly affected socially and educationally (Adams & Ray, 2016). Sufficient degree of classroom discipline is required to create an atmosphere conducive to students learning, a student's misbehavior during classes distract the process of learning and teaching and ruins the effectiveness of the most important environmental factors that can assist learners to develop positive attitudes towards learning and promoting students efforts in carrying out learning tasks. Recent research (Pane, 2010) has revealed that punitive strategies militate against the promotion of responsible student behaviours, hence, should be substituted with proactive and interactive discipline practices. The interactive discipline approach is the act of teaching students self-control based on an agreement binding a teacher and a group of students together for effective learning. Thus, emphasis is placed on student self-regulation by negotiating, discussing, and contracting between teachers and students to allow the group takes responsibility for ensuring the appropriateness of the behavior of all its members (Rahimi & Karkami 2015).

The use of verbal instruction is one of the techniques for effective classroom management that can be adopted by teachers. According to Adu et al. (2014) clear instruction on what should be done, gives the students concrete direction to compliance. In this approach, teachers try to be consistent in enforcing the verbal instruction so that it produces the desired results. Until recently; corporal punishments were used widely as an effective classroom management technique to curb disruptive behaviors in the classroom. It is now not commonly applicable though it is still practiced in some schools as an effective classroom management adopted by teachers in the classroom. According to Pane (2010) instructional supervision involves moving around the classroom to observe students closely, engaging, students in academic activities, asking questions and employing both verbal and non-verbal teaching methods to ensure that students are paying undivided attention and taking more from the lesson than simple facts.

Delegation of authority to learners is still another technique of effective classroom management where the teachers delegates his/her authority to deserving students and assign them duties such as cleaning chalk board, time keeping, controlling noisemakers, managing learning material, collecting assignment from students, copying lesson notes on the chalk board, class representative on behalf of the class (Pane, 2010). These contribute a great deal to making the classroom a conducive place since cooperation between students and teachers in the classroom is fostered. Classroom management techniques therefore, are aimed at producing conducive learning environment where students can learn with ease and perform better academically. All of these techniques can be adopted in the classroom depending on the nature of the problem at hand.

Effective classroom management is therefore, obviously linked to teacher's ability to set an appropriate tone and gain learner respect and cooperation in class. The way teachers discipline their classes has a profound impact on the way they project themselves as effective teachers. It is evident that more caring teachers choose relationship-based discipline strategies (for example, discussing with students about their misbehavior) over coercive strategies (for example, aggressive and punishment) in an attempt to prevent disciplinary problems (Rahimi & Karkami, 2015). Noddings (2007) supported the fact that more caring teachers and those who use relationship-based discipline strategies are perceived to be more effective teachers by their students. Teachers appropriate teaching strategies also help students to learn better as discipline protects students from disruption as well as emotional and cognitive threats. It also maximizes students' academic performance and influence their motivation and achievement. In this wise, the more students perceive that their teachers care about them, the more the students will care about the class, and the more likely they will pay attention in class and consequently learn more.

Teachers as managers of classroom are able to harmonize the minds and emotions of their students in class and produces students with higher academic

achievement and performance in science subjects especially in biology (Noddings, 2007).

Biology is therefore, seen as the science that deals with the study of varieties of living organisms including ourselves (plants and animals). It also studies the way our environment evolved from triple organisms and this is intimately part of our environment. Medical advancement shows the importance of biology in our daily lives. The study of dreaded diseases, their causative agents, cure as well as the action of drugs are a way of Biological enlightenment that strives at minimizing human suffering, its tries to find cure for hereditary abnormalities like hemophilia, Down's syndrome etc. Biology has a vital role in controlling environmental pollution and attractive sense of art and beauty. High yielding varieties of crop plants like rice, wheat, salt, sugar cane, etc. are now bred experimentally. Disease resistant grain verbalized seeds are made (Biotechnology) and Fossils are important in locating underground oil and natural gas resources. The above use and importance have made biology a course or subject of impact in the life of individuals and the nation world as a whole; thereby prompts the learned to make it a compulsory course of study in every level of education primary, secondary, and tertiary institutions.

Despite the fact that biology plays a tremendous role in our everyday lives, most students are yet to realize the importance of it. Besides, among all the factors contributing to high academic performance of students in secondary schools in Anambra West local government in Anambra State of Nigeria, it was observed that teachers' classroom management is the major contributory factor to help in improving the academic performance of students not only in biology but in all other subjects, especially in science subjects.

In the light of the above, this pertinent question that readily comes to mind is that if Nigerian teachers are able to manage classroom effectively and efficiently? It is against this backdrop that the researchers want to find out whether teachers' effective classroom management can be related to students' academic performance in biology or not.

### **Statement of the problem**

The roles of the teachers in student achievement cannot be over emphasized. The progressive decline in secondary school students' academic performance in Anambra West Local Government Education Authority (LGEA) has raised a lot of questions as regards to Nigeria's educational system, of which teachers' obligations towards managing their classroom effectively are key factors.

However, an observation has been associated with the non-chalant attitude and teachers' inabilities to control their classroom in the senior secondary schools' section, do contribute significantly to the poor performance of students in Biology. It is an obvious and glaring fact that in most of the secondary schools in Nigeria, some teachers teaching this subject do not attach its life and educational importance to their professional practices.

It is against this background, this study was carried out with the aim to explore the classroom management and their strategies as well as teachers' ability, as they relate to the students' academic performances in Anambra State of Nigeria.

### **Research questions**

- (1) What management strategies do teachers use predominantly for organizing biology learning activities in the secondary schools?
- (2) What are the teachers' abilities in managing classroom effectively in biology?

### **Hypotheses**

- (1) There is no significant relationship between teachers' classroom management strategies and students' academic performance in biology.
- (2) There is no significant relationship between teachers' abilities in managing classroom effectively and students' academic performance



## Method

The study adopted a descriptive correlation research design because it seeks to establish the relationship that exists between the independent variable (effective classroom management) and the dependent variable (students' academic performance in biology). The senior secondary school students of Anambra West Local Government Area, in Anambra state of Nigeria made up the study population of 5885. Stratified random sampling was used in selecting 100 participants spread among 5 public secondary schools in the Local Government Area. From each school, 20 students were purposively selected to ensure mixture of students in the subject and across the three senior classes (SSS 1-3). Structured questionnaire in a 4-likert scale was developed and validated by measurement experts. It comprised of two sections: Section A comprised the personal characteristics of the participants; Section B had 38 question-items sourcing information on the predominant classroom management in use by the teachers; and teachers' ability towards managing their classroom effectively. The items in Section B were scored based on four-point rating scale ranging from SA = Strongly Agreed, A = Agreed, D= Disagreed, and SD = Strongly Disagreed. The weighting of the options were SA = 4, A = 3, D = 2, and SD = 1. Seventy (70) question items of the instrument was administered on 25 students of another LGA (Ayamelum) in the same Educational Zone (Otuocha Zone) before the targeted sample for pilot testing. The responses of these students to the questionnaire items were subjected to item analysis. The reliability of the instrument was established using Crombach alpha coefficient and the index was 0.84. Descriptive statistics (i.e., Mean and Standard deviation) were used for answering the research questions, while Pearson product moment correlation coefficient was used to testing the relationship between the independent variable (effective classroom management) and the dependent variable (students' academic performance)

## Results

**Table 1.** Management strategies teachers do use predominantly for organizing biology learning activities in secondary schools

s/n	Item	Mean	SD	Remark
1	My teacher talks to me authoritatively in biology class	2.98	1.00	Accepted
2	My teacher uses coercive voice on me while teaching biology	2.56	1.03	Accepted
3	He/she asks any us to clean the chalkboard	2.69	1.04	Accepted
4	He/she delegates the duty of controlling noise in biology classroom	2.87	1.03	Accepted
5	He/she delegates one of us to copy biology lesson note on the chalk board	2.87	1.06	Accepted
6	He/she delegates one of us to control biology learning materials	2.43	1.06	Unaccepted
7	One of us do collate our biology assignments	2.42	0.92	Unaccepted
8	He/she delegates one of us to keep or regulates time during biology class activities	2.08	1.03	Unaccepted
9	He/she makes use of verbal instructions during biology class	2.16	1.09	Unaccepted
10	He/she monitors the class during teaching-learning of biology	2.05	1.01	Unaccepted
11	He/she supervises our biology class work	2.29	1.09	Unaccepted
12	He/she marks my biology assignment by him/herself	2.28	1.02	Unaccepted
13	He/she helps us on how to self-regulate ourselves on learning of biology	2.21	1.02	Unaccepted
14	He/she gives me advise whenever I misbehaves or fails biology	2.14	1.04	Unaccepted
15	He/she discuss with me amicably on biology issues outside teaching period	2.91	1.09	Accepted
16	He/she gives me punishment when I fail my assignment in biology	3.09	0.97	Accepted
17	My teacher calls the attention of any student who is distracted	3.17	0.79	Accepted
18	He/she does not involve my parents on issues concerning me in the class	2.14	1.09	Unaccepted
19	He/she throws questions on any inattentive student	2.23	1.09	Unaccepted
20	He/she makes sure that every student participates actively	2.57	0.96	Accepted
21	He/she keeps us busy with biology assignments	2.57	0.96	Accepted

22	He/she does introduces something very exciting suddenly to draw our attention	2.05	0.93	Unaccepted
23	Flashes his/her eyes on us while teaching	2.67	1.15	Accepted
24	He/she uses cane on us when we misbehave	2.90	0.90	Accepted
25	He/she does ask questions freely during lesson period	3.17	0.79	Accepted
26	He/she moves towards any student who is not paying attention or disturbing	2.33	1.17	Unaccepted
27	He/she makes rules and regulations for the class	2.69	1.05	Accepted
	Total	68.51	27.38	
	Average	2.53	1.01	

From Table 1, the item means rating from 2.05 to 3.17 were analyzed. The mean rating for item numbers 6, 7, 8, 9, 10, 11, 12, 13, 14, 18, 19, 22 and 26 were less than 2.50 value and unaccepted and thus were perceived as not being management strategies teachers do use predominantly for organizing biology learning activities. While the mean rating for item numbers 1, 2, 3, 4, 5, 15, 16, 17, 20, 21, 23, 24, 25 and 27 were 2.50 value and above. Therefore, were accepted and seen as the management strategies teachers use predominantly for organizing biology learning activities.

From Table 2, the mean items rating from 2.22 to 3.49 were analyzed. The mean rating for item numbers 29, 30, 31, 32, 33, 34 and 36 were less than 2.50 values, and were unaccepted because they were averagely seen as abilities that biology teachers do not possess. While the mean rating for item numbers 28, 35, 37, and 38 were up to 2.50 value and above and thus were accepted, and averagely seen as the abilities biology teachers do possess.

In Table 3, the null hypothesis was rejected at 0.05 level of significant and a correlation of 0.61 obtained.

In Table 4, the null hypothesis was rejected at 0.05 level of significant and a correlation of 0.37 obtained.

**Table 2.** Teachers’ abilities to manage classroom effectively in biology

s/n	Item	Mean	SD	Remark
28	My teacher teaches very well	3.49	0.59	Accepted
29	He/ she speaks very well	2.33	1.77	Unac- cepted
30	He/ she is laudable enough in the class	2.28	1.02	Unac- cepted
31	He/she does give us feedback on our assignments	2.05	0.93	Unac- cepted
32	Always create warm and motivating learning at- mosphere	2.14	1.09	Unac- cepted
33	He/she does impact knowledge whenever he/she teaches us	2.22	1.00	Unac- cepted
34	He/she assists lagging students in biology	2.47	0.87	Unac- cepted
35	He/she interacts effectively with students	3.34	0.74	Accepted
36	He/she can enrich well performing students	2.40	1.08	Unac- cepted
37	He/she can resolve conflict among students	3.25	0.77	Accepted
38	He/she dresses well	2.50	1.12	Accepted
	Total	39.91	8.88	
	Average	2.99	0.80	

**Table 3.** Significant relationship between teachers’ classroom management strategies and students’ academic performance in biology

Teachers’ class- room manage- ment strategies (X)	Students’ biol- ogy perfor- mance (Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
ΣX= 189	ΣY= 98	ΣX <sup>2</sup> = 3609	ΣY <sup>2</sup> = 1175	ΣXY= 1906

r= 0.61

**Table 4.** Significant relationship between teachers’ abilities to manage class-  
room effectively and students’ academic performance in biology

Teachers’ abilities (X)	Students’ biology performance (Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
ΣX= 182	ΣY= 82	ΣX <sup>2</sup> = 6012	ΣY <sup>2</sup> = 1372	ΣXY= 2013

r= 0.37

## **Discussion**

The aim of this study was to investigate on the relationship between effective classroom management and students' academic performance in biology in Anambra West LGEA in Anambra State, Nigeria. It was discovered in *Research question 1* that among the 27 management strategies presented that teachers do not make use of 13 which include that: the teachers do not delegate the students to do some classroom activities such as controlling biology learning materials, collation of biology assignment, keeping or regulation of time during biology class period as management strategies; they do not use verbal instruction, monitor the class during teaching-learning process, supervise the class work nor mark the students assignment by themselves, expose the students on self-regulation, advise them when they are failing biology; throw questions on inattentive students during teaching-learning process; do not draw the students' attention by bringing an excitable issue around during teaching and learning process nor move around during teaching to observe students that are not paying attention or disturbing the classroom. They do not involve the parents by any means on issues concerning the students.

However, it appears that most of the teachers do delegate one of the students to duty to clean the chalkboard, control noise in the classroom, and copy lesson note on the board for others as strategies to control the class; they do make use of some punitive approach as management strategies such as making use of authoritative means as well as coercive voice on the students in addressing and teaching biology; they are also conscious of some disciplinary and counseling measures as management strategies such as giving punishment and caning disrupted and disobedient students as well as those who fail to do assessment, having amicable discussion with students outside lesson period, ensuring that students participate actively in the class activities, keeping the students busy with assignments, flashing eyes on students and asking questions while teaching, calling attention of any student who is distracted and creating as well as ensuring that class/school rules and regulations are effectively kept.

*Research question 2* sought to assess those qualities in the teachers in fostering effective classroom management to students' academic performance. Among eleven presented qualities, four were averagely accepted as qualities biology teachers possess in Anambra West LGEA, Anambra state, Nigeria. They include: dressing well, teaching well, effective interaction with the students, and resolving conflict among the students. While the following seven were unaccepted as teachers' qualities: lack of effective communication as the teachers do not speak well and laudable enough; lack of feedback on assessment or creation of warm and motivating atmosphere for learning; lack of impacting knowledge or assisting lagging students in biology as well as enriching or commending well performing students.

Result of the correlation analysis of the relationship between the teachers' classroom management strategies and students' academic performance of 0.61 indicates a positive linear correlation which implies that there is significant relationship between teacher's classroom management strategies and students' academic performance at 0.05 significance level. In line with the findings of Adams & Ray (2016), they discovered through their research findings that, there is positive association between teacher's classroom management efficiency and student's academic performance; and Muhammad et al. (2019) who discovered that good relationship between teachers' classroom management practices and learners' achievement was found as a vital and basic element for the school high academic score; while Boluwaye (2007) had a contrary opinion.

Result of correlation analysis of significant relationship between the teachers' ability to manage classroom effectively and students' academic performance in biology class of 0.37 at 0.05 level of significance shows a weak relationship exists between teachers' ability to manage class effectively and students' academic performance. This is in line with a statement corroborated by Boluwaye (2007) while on the other hand; Fagbamiye (2006) asserted that teachers' competency and experience have significant relationship with effective classroom management.

## **Conclusion**

The study concluded that there was significant relationship between teachers' effective classroom management strategies and student's academic performance in Biology and that there exist a weak relationship between teachers' abilities to manage classroom effectively and students' academic performance.

## **Recommendation**

The following recommendations are put forward by the researchers: (1) Emphasis should be made on effective classroom management strategies by the government to her schools; (2) Government should organize workshops and seminars regularly for the teachers in other to update their knowledge and hone their skills abilities in effective means of managing classroom; (3) Effective classroom management should be extended to higher institution to promote classroom discipline as well as academic performances.

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