

CONDUCTIVE SCHOOL ENVIRONMENT: A NECESSARY FACTOR FOR EFFECTIVE TEACHING AND LEARNING IN PUBLIC SECONDARY SCHOOLS IN GWAGWALADA AREA COUNCIL OF ABUJA

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Abstract

The school environment in which teaching and learning take place is an important factor that cannot be ignored if the aims and objectives of the school system are to be optimally achieved. Hence, a conducive, healthy and safe school environment is very paramount to effective teaching and learning. This study therefore, examined classroom setting and school noise as components of school environment and how they affect public secondary school students' performance in Gwagwalada Area Council, Abuja. The research design used for the study was a descriptive survey. The population of this study constituted of 700 public secondary school students in 6 secondary schools in Gwagwalada Area Council. The sample of the study comprised 402 public secondary school students selected through simple random sampling technique in order to give each element (student) equal chance of being selected. The instrument used for data gathering was closed-ended questionnaire. The questionnaire was designed using 4 points scale of Strongly Agreed, Agreed, Disagreed and Strongly Disagreed. A total of 402 questionnaires were administered but 394 was validly filled and returned for analysis. Data collected via questionnaire were analyzed with mean statistical technique. The choice of mean as a statistical tool was informed by the fact that the study is descriptive in nature and as such, has no hypothesis to be tested. The decision rule or benchmark for the acceptance of an item was 2.5 and above. Major findings of the study indicated that conducive classroom setting has positive effect on public secondary school students' performance. It was also revealed that school noise affects students' performance negatively. However, result further showed that air conditioned classroom and decoration of classrooms do not enhance students' understanding, retention and sense of comfort. Based on the findings, major recommendations were that since conducive classroom setting has positive effect on students' performance, teachers should ensure that their classes are well-lit in order to help students' vision and ability to copy notes. They should also make the classroom very conducive so that the students can feel relaxed, comfortable and participate more actively the teaching-learning process. Second, teachers should help in minimizing students' noise while in school. School management should ensure that schools are sited in areas devoid of noise.

Keywords: Conducive, School Environment, Factor, Teaching and Learning.

Introduction

The way and manner at which teaching and learning activities are carried out more efficiently and effectively lies greatly on the nature of the environment in terms of conduciveness, healthiness, safety and availability of quality human and material resources etc. Abbott (2014) maintained that the school environment is an essential element of teaching and learning; of which no reasonable teaching-learning process can take place without its conduciveness. In the same vein, Kwa (2017) observed that creating a conducive educational environment is as important as what is taught and shared. Meaning, it is not only the infrastructure, the technology, the educators or the

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student itself. According to WHO (2010), school environment represents an important setting for effective control measures. Thus, wood smoke, environmental tobacco smoke, molds and many volatile chemicals found in indoor environments can reduce respiratory function in school children. School absenteeism associated with these respiratory diseases can adversely affect both intellectual and emotional development. Children are more susceptible to environmental diseases than adults and therefore need healthy school environments.

In the opinion of Alexander (2013), observed that a conducive and healthy school environment shapes the attitudes which children develop toward the school as well as promotes teaching and learning. A safe and healthy physical environment requires a good location and safe buildings; protection from excessive noise; natural light; clean indoor air and water; a healthy outdoor environment; and healthy school-related activities including safe management and maintenance practices, use of non-toxic cleaning supplies, careful use of pesticides, vector control and use of non-toxic art supplies.

Corroborating the above assertion, Blum (2015) opined that students who attend schools with a positive, respectful climate are able to focus on learning and realize their academic, interpersonal and athletic potential. Such schools have clearly and explicitly communicated policies and procedures that set clear boundaries for respectful, non-violent treatment of school community members and support an environment that is free of negative and harmful physical, social, emotional and intellectual language and actions. A positive and conducive school climate provides a solid foundation for supporting students' academic achievement and development of positive attitudes and behaviors.

Blum (2015) further admitted that students who are connected to school (i.e., feel safe, perceive themselves to be treated fairly by adults, are happy to be in school, feel they are a part of the school community and feel close to people at school) experience less distress and engage in fewer risk-taking behaviors. Students with high levels of school connectedness demonstrate lower levels of violence and report more factors that protect them from engaging in risky sexual and substance abuse behaviors. Teachers report that students with a commitment to school have high self-esteem. A strong relationship exists between school climate and student self-concept, student absenteeism, and suspension rates. Students, who feel safe, cared for, appropriately supported and sensitively encouraged to learn in challenging and meaningful ways experience increased academic achievement.

Hawkins, Catalano, Kosterman, Abbott and Hill (1999) cited in Pohnpei (2010), maintained that when students find their school environment to be supportive and caring, they are less likely to become involved in substance abuse, violence and other problem behaviors. They are more likely to develop positive attitudes toward themselves and pro-social attitudes and behaviors toward others. Hence, supportive schools foster these positive outcomes by promoting students' sense of connectedness during the school day. In the same vein, Pekka (2010), posits that the children of today are the adults of tomorrow and as such, they deserve to inherit a safer and healthier world. There is no task more important than safeguarding their environment.

According to Nathaniel (2014), school environment is synonymous with learning environment and educational environment. As such, they are often used interchangeably. Nathaniel therefore, defines school environment as a combination of social and physical qualities that create the classroom experience. It includes classroom

management procedures as well as the way the space is organized, furnished and maintained. It also refers to those school-level variables that relate directly to the school environment such as teachers, curriculum coordinators or principals and also reflect on policies created at the school or community level and impact the entire school faculty, parents and students.

School environment encompasses all the variables that influence students' learning. This includes: classroom and its setting, teacher-students' ratio, discipline, instructional materials, teacher-students' relationship, school head-teachers' relationship, school head-students' relationship, the curriculum contents, the examination system, libraries, technical workshops, laboratories, play grounds, conveniences, sanitation, maintenance culture, aesthetics to mention but a few (Eric, 2009).

According to Abbott (2014), the school/learning environment is an essential element for teaching and learning to take place effectively. He sees **school environment** as a diverse physical location, contexts and cultures in which students learn. Since students may learn in a wide variety of settings, such as outside-of-school locations and outdoor environments, the term is often used as a more accurate or preferred alternative to *classroom*, which has more limited and traditional connotations—a room with rows of desks and a chalkboard, for example. The term also encompasses the culture of a school or class—its presiding ethos and characteristics, including how individuals interact with and treat one another as well as the ways in which teachers may organize an educational setting to facilitate learning.

Some public secondary schools in Nigeria especially those found in rural areas are characterized by over-crowded students, inadequate seats for learners to comfortably sit and learn, dirty classrooms, lack of well-ventilated classroom, bushy school surroundings, unequipped school libraries, inadequate school laboratories poor leadership tendencies etc. Udoh (1999) cited in Blum (2015) identified some unhealthy practices in some public schools to include poor sitting arrangement, inadequate facilities, poor ventilation etc. He further stressed that most schools have no light, insufficient facilities, dilapidated buildings and no ventilation. Under these conditions, the health of students according to Udoh may be adversely affected, which will in turn reflect on students' academic performance.

Classroom setting as a component of school environment is very fundamental and can either improve or impede a student's ability to learn and feel safe and comfortable as a member of the class. Classroom setting can also be regarded as classroom environment. It is a broad term and is defined in many different ways according to theory as well as practice. It is physical environment around the class involving the classroom size, the light, the arrangement of chairs, the noise which affects teachers and students' attraction. The classroom environment affects the way teachers teach and learners learn. The type of classroom environment that a teacher creates and encourages can either increase or decrease a student's ability to learn and feel comfortable as a member of the class. The classroom environment should as much as possible foster cooperation and acceptance as the teaching methods that the teacher uses (James, 2012).

Classroom setting according to Fraser, (2002) cited in Nathaniel (2014) encompasses the teacher and children including the curriculum, actual teaching, classroom management, classroom climate and the physical condition of the classroom (dark or illuminated) (hard floor or sandy floor) (arrangement of seats etc.). A good

classroom environment can be achieved through: 1. Classroom organization and class size-the number of children in each class should be manageable. 2. Physical organization of the class to ensure good seating arrangement, floor space and placement of the chalkboard at the center of the classroom. The classroom should be well illuminated with enough light and there should be free flow of air through adequate ventilation. 3. Teachers and children's disposition should reflect cheerful atmosphere. The teacher should show interest and concern for her children and work. In the classroom the teacher's voice should be audible, controlled and should be heard by every member of the class.

Pohnpei (2010), perceived classroom environment as the physical characteristics of the classroom. It encompasses things like the size of the room, how dark or light it is, what the temperature is like, whether it has carpeting or just concrete, etc. The major importance of the physical environment is that it can affect students' comfort and to some extent, their ability to learn. Students who are uncomfortable are unlikely to learn as well as those who are comfortable. In addition, the environment can affect the morale of students. If they feel their classroom is physically worse than those of richer kids, for example, they might be discouraged and upset and less willing to learn. Njoku and Yaya (1997) cited in Kwa (2017) stressed that a classroom atmosphere of love, trust, humanity and co-operation and mutual respect creates a very favourable or conducive climate for learning to take place effectively. Hence, a classroom setting that is conducive will remove charged emotions and bring serenity for increased learning among students. Poor classroom climate brings class distraction and other vices which will disturb learning by the students.

Miller (2011), lending her voice to the concept of classroom environment stresses that classroom environment encompasses a broad range of educational concepts, including the physical setting, the psychological environment created through social contexts and numerous instructional components related to teacher characteristics and behaviors. Similarly, Denise (2012), posits that the classroom is "home away from home" for teachers and their students. Hence, he advised teachers to make it attractive and functional. The physical aspects of your room include room arrangement, seating, bulletin boards and black/white board displays and physical climate. Each of these should be carefully considered with both individual students' needs and instructional goals in mind. While a teacher considers how to arrange your classroom, several things are important to remember. The seating arrangement should be designed in a systematic way so that the organization of the seats helps the students to feel more organized. Sometimes, this sense of organization is helped if students have assigned seats. Make sure the room has only the amount of furniture that is functional and does not contain useless or non-essential furnishings. The entrance to your room and the hallway outside should not cause distractions to students during lessons. Additionally, seats should be arranged in such a way as to reduce traffic distractions. For example, as students get up to go to the bathroom or pencil sharpener they should not overly distract students they pass. Allow plenty of space for foot traffic, especially around areas where supplies are stored.

Pohnpei (2010) stated that classroom setting affects the morale of students. In his view, if they feel their classroom is physically worse than those of richer kids, for example, they might be discouraged and upset and less willing to learn. Njoku and Yaya (1997) cited in Kwa (2017) stressed that classroom setting that is conducive will remove charged emotions and bring serenity for increased learning among students. To

the researchers, poor classroom climate brings class distraction and other vices which will disturb learning by the students. In the same direction, James (2012) posited that classroom setting affects the way teachers teach and learners learn; as overcrowded classroom reduces the level of students' concentration, understanding and retention. James (2012) further maintained that the type of classroom environment that a teacher creates and encourages can either increase or decrease a student's ability to learn and feel comfortable as a member of the class. The classroom environment should as much as possible foster cooperation and acceptance as the teaching methods that the teacher uses.

In the opinion of Nathaniel (2014), a conducive classroom setting has positive impact on the learners. In his view, a more open classroom makes students to learn comfortably and an air conditioned classroom enhances students' understanding and retention. Well-lit classroom helps students' vision and ability to copy notes and see the board very clearly. Nathaniel added that soft chairs in the classroom promote students' comfort and sustained learning. Conducive classroom makes students feel relaxed to ask questions and express their thoughts and feelings while poor classroom climate brings about class distraction.

School noise also constitutes one of the components of school environment and tends to affect the performance of the learners. According to Knez and Hygge (2002) cited in Lauren and Wang (2009), there are limits to the judgments about the effect of noise with several studies revealing that participants can be apparently mistaken about the effect of the noise situation on their performance. Thus, there is considerable literature on the effect of noise on students' performance. Stansfeld and Matheson (2013) maintained that school noise has the capacity to affect the health and psychological problems of students which results in annoyance, sleep and cognitive performance in adults and children. Noise also tends to raise blood pressure and signs of learned helplessness of the learners. A more chronic noise exposure impairs cognitive functioning of the students and noise-related reading problems deficiencies in pre-reading skills and more general cognitive deficits.

In the view of Shield and Dockrell (2008) cited in Blum (2015), students while in school are exposed to various types of noise including external, environmental noise and noise generated within the classroom. Noise therefore has detrimental effects on students' performance in school including reduced memory, motivation and reading ability. A study was conducted by Shield and Dockrell to examine the impact of chronic exposure to external and internal noise on the test results of children aged 7 and 11 in London (UK) primary schools. External noise was found to have a significant negative impact upon performance, the effect being greater for the older children. The analysis suggested that children are particularly affected by the noise of individual external events. Test scores were also affected by internal classroom noise, background levels being significantly related to test results. Negative relationships between performance and noise levels were maintained when the data were corrected for socio-economic factors relating to social deprivation, language, and special educational needs. Linear regression analysis has been used to estimate the maximum levels of external and internal noise which allow the schools surveyed to achieve required standards of literacy and numeracy.

Bradley and Sato (2018) is of the view that the classroom involves good speaking and listening as the primary communication mode. Students learn by listening to their teachers and to each other. Excessive background noise or reverberation (i.e., many

delayed reflections of the original sound) interferes with speech perception and consequently, impairs educational outcomes. Careful attention to acoustical design requirements is essential for creating an effective learning environment. Noise exposure affects educational outcomes and students' ability to recognize speech sounds is decreased by even modest levels of ambient noise and this effect is magnified for younger children. Bradley and Sato, concluded that speech intelligibility is dramatically reduced by higher levels of background noise, particularly for young listeners. A study was conducted by Lauren and Wang (2009) to determine the relationship between background noise levels in elementary classrooms due to the building mechanical systems and student performance on achievement tests. Results from the study showed that for the elementary school system tested, lower students reading comprehension scores were significantly related to higher background noise levels from building mechanical systems.

Hygge (2013) opined that excessive noise can also interfere with learning by affecting memory and acting as a distraction that impairs a student's ability to pay attention. To him, the ability to pay attention is most important when students are engaged in tasks that demand higher mental processes, such as learning new concepts or when teachers are verbally presenting new or complex information. Schneider (2012), in the same vein, commented that good acoustics are fundamental to good academic performance. Teachers pausing during bursts of external noise leads to an effective reduction in teaching time which has been put as high as an 11% loss in teaching time. Although there is interest in noise annoyance and links to mood, it seems there is also a more direct cognitive mechanism reports that various noises (recordings of aeroplanes, road traffic and trains) appear to interfere with the encoding stage of memory and that this is not mediated by distraction or mood.

Statement of the Problem

The extent to which students excel in their academics is largely dependent on the friendliness, healthiness and conduciveness of the school environment which students find themselves.

However, the questions that keep begging for answers are how attractive, friendly and conducive is the school environment in public secondary schools in Gwagwalada? Are the classrooms well ventilated? Is the class size relatively small? Are there enough desks for students to sit comfortably and learn? Are students sometimes distracted by noise of vehicles, heavy duty cars and noise from construction sites? Most school environment in public secondary schools in Nigeria are characterized by overcrowdedness, inadequate seats for learners to comfortably sit and learn, dirty classrooms, lack of well-ventilated classroom, bushy school surroundings, unequipped school libraries, inadequate school laboratories etc. Udoh (1999) cited in Blum (2015) identified some unhealthy practices in some public schools to include poor sitting arrangement, inadequate facilities, poor ventilation etc. He further stressed that most schools have no light, insufficient facilities, dilapidated buildings and no ventilation.

Learning in an environment that depicted by the above factors or conditions renders the school environment unfriendly, unhealthy, unsafe and unconducive for teaching and learning. It is in the light of above, that this study sought to determine the extent to which classroom setting and school noise as components of school environment affect public secondary school students' performance in Gwagwalada Area Council of Abuja.

Purpose of the Study

This study specifically sought to:

- i. Determine influence of classroom setting on students' performance in public secondary school.
- ii. Ascertain the influence of school noise on students' performance in public secondary school.

Research Questions

Two research questions were raised to guide the study.

- i. Determine influence of classroom setting on students' performance in public secondary school.
- ii. Ascertain the influence of school noise on students' performance in public secondary school.

Methodology

The research design used for the study was a descriptive survey. The choice of this design and its consideration to be suitable for the present study was because data were collected from respondents considered to be the representative sample of the larger population; thereby guaranteeing generalization of the findings of the study to the larger population. The population of this study constituted of 700 public secondary school students in 6 secondary schools in Gwagwalada Area Council. The sample of the study comprised 402 public secondary school students selected through simple random sampling technique in order to give each element (student) equal chance of being selected. The instrument used for data gathering was closed-ended questionnaire. The questionnaire was designed using 4 points scale of Strongly Agreed, Agreed, Disagreed and Strongly Disagreed. A total of 402 questionnaires were administered but 394 was validly filled and returned for analysis. Data collected via questionnaire were analyzed with mean statistical technique. The choice of mean as a statistical tool was informed by the fact that the study is descriptive in nature and as such, has no hypothesis to be tested. The decision rule or benchmark for the acceptance of an item was 2.5 and above.

Data Analysis

Table 1: Classroom Setting and Public Secondary School Students' Performance

S/N	ITEM	SA 4	A 3	D 2	SD 1	Total	\bar{X}	Decision Rule
1	More open classroom makes students to learn comfortably.	112	179	29	74	1117	2.8	Accepted
2	Air conditioned classroom enhances students' understanding and retention.	41	27	288	38	859	2.1	Accepted
3	Well-lit classroom helps students' vision and ability to copy notes.	220	174	0	0	1402	3.6	Accepted
4	Soft chairs promote students' comfort and sustained learning.	186	201	7	0	1361	3.5	Accepted
5	Decoration of classrooms promotes a sense of comfort in students.	10	24	344	16	816	2.1	Accepted
6	Ventilated classroom promotes students' comfort to learn better.	199	157	29	9	1334	3.4	Accepted
7	Conducive classroom makes students feel relaxed to ask questions and express their thoughts and feelings.	210	179	5	0	1387	3.5	Accepted
8	Classroom colour affects a student's attention spent and affects a student concentration.	268	105	16	6	1425	3.6	Accepted
9	Poor classroom climate brings class distraction.	183	198	13	0	1352	3.4	Accepted

Items in table 1 above determined the effect of classroom setting on public secondary school students' performance in Gwagwalada Area Council, Abuja. To analyze the data, mean statistical tool was used with the cut-off mean score of 2.5 as the bench mark. Implying; any item that has 2.5 mean score and above is upheld or accepted while the one with less than 2.5 is rejected. Finding revealed that conducive classroom setting has positive effect on public secondary school students' performance. However, result further showed that air conditioned classroom and decoration of classrooms do not enhance students' understanding, retention and sense of comfort.

Table 2: School Noise and Public Secondary School Students' Performance

S/N	ITEM	SA	A	D	SD	Total	\bar{X}	Decision Rule
1	Lower background noise level in classroom results in higher concentration by students.	218	167	9	0	1391	3.5	Accepted
2	A lower noise level in classroom improves participation in learning	198	97	68	31	1250	3.2	Accepted
3	Exposure to noise at a young age might harm the hearing ability of students and thus, their performance.	285	84	19	6	1436	3.6	Accepted
4	Teachers in noisy classes interact less often with their students.	300	94	0	0	1482	3.8	Accepted
5	Noise tends to obstruct the smooth flow of teaching and learning.	277	89	8	20	1411	3.6	Accepted
6	A more chronic noise exposure affects students while reading thereby causing serious distraction	169	199	12	14	1311	3.3	Accepted
7	Noise results in students' inability to hear what is being taught by the teacher.	144	211	29	10	1277	3.2	Accepted

Items in table 2 above ascertained the effect school noise on public secondary school students' performance in Gwagwalada Area Council, Abuja. To analyze the data, mean statistical tool was adopted with the cut-off mean score of 2.5 as the bench mark. Implying that; any item that has 2.5 mean score and above is upheld or accepted while the one with less than 2.5 is rejected. Data analyzed showed that all the items (1-7) as indicated in table 2 above had the cut-off mean score of 2.5 above. therefore, the finding showed that school noise affects students' performance negatively.

Results

Items in table 1 determined the effect of classroom setting on public secondary school students' performance in Gwagwalada Area Council, Abuja. Finding revealed that conducive classroom setting has positive effect on public secondary school students' performance. However, result further showed that air conditioned classroom and decoration of classrooms do not enhance students' understanding, retention and sense of comfort.

The above result is in agreement with the opinion of Nathaniel (2014) who admitted that a conducive classroom setting has positive impact on the learners. In his view, a more open classroom makes students to learn comfortably and an air conditioned classroom enhances students' understanding and retention. Well-lit classroom helps students' vision and ability to copy notes and see the board very clearly. Nathaniel added that soft chairs in the classroom promote students' comfort and sustained learning. Conducive classroom makes students feel relaxed to ask questions and express their thoughts and feelings while poor classroom climate brings about class

distraction. Pohnpei (2010) stated that classroom setting affects the morale of students. In his view, if they feel their classroom is physically worse than those of richer kids, for example, they might be discouraged and upset and less willing to learn. Njoku and Yaya (1997) cited in Kwa (2017) stressed that classroom setting that is conducive will remove charged emotions and bring serenity for increased learning among students. To the researchers, poor classroom climate brings class distraction and other vices which will disturb learning by the students.

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Items in table 2 ascertained the effect school noise on public secondary school students' performance in Gwagwalada Area Council, Abuja. Finding showed that school noise affects students' performance negatively. This is in line with opinion of Bradley and Sato (2018) who observed that noise exposure affects educational outcomes and students' ability to recognize speech sounds is decreased by even modest levels of ambient noise and this effect is magnified for younger children. A study conducted by Lauren and Wang (2009) showed that for the elementary school system tested, lower students reading comprehension scores were significantly related to higher background noise levels from building mechanical systems. Hygge (2013) opined that excessive noise can also interfere with learning by affecting memory and acting as a distraction that impairs a student's ability to pay attention. Schneider (2012), in the same vein, commented that good acoustics are fundamental to good academic performance; as teachers pausing during bursts of external noise leads to an effective reduction in teaching time which has been put as high as an 11% loss in teaching time. Stansfeld and Matheson (2013) maintained that school noise has the capacity to affect the health and psychological problems of students which results in annoyance, sleep and cognitive performance in adults and children. Noise also tends to raise blood pressure and signs of learned helplessness of the learners. A more chronic noise exposure impairs cognitive functioning of the students and noise-related reading problems deficiencies in pre-reading skills and more general cognitive deficits

Conclusion

School environment encompasses all the variables that influence students' learning. This includes: classroom and its setting, school noise, teacher-students' ratio, discipline, instructional materials, teacher-students' relationship, school head-teachers' relationship, school head-students' relationship, the curriculum contents, the examination system, libraries, technical workshops, laboratories, play grounds, conveniences, sanitation, maintenance culture, aesthetics to mention but a few. School environment is an essential element for teaching and learning to take place effectively. Thus, a conducive and healthy school environment shapes the attitudes which children develop toward the school as well as promotes effective teaching and learning. However, air conditioned classroom and decoration of classrooms may not enhance students' understanding, retention and sense of comfort.

Recommendations

In line with findings of the study, two basic recommendations were made. First, since conducive classroom setting has positive effect on students' performance, teachers should ensure that their classes are well-lit in order to help students' vision and ability to copy notes. They should also make the classroom very conducive so that the students can feel relaxed, comfortable and participate more actively the teaching-learning process. Second, teachers should help in minimizing students' noise while in school. School management should ensure that schools are sited in areas devoid of noise.

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