

Research Article

Basic Prerequisites of Primary Schools' Classrooms Ambience for Excellent Teaching and Learning

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Abstract

Primary education is the foundation of the entire education system in Nigeria. Excellent teaching and learning is unavoidably inevitable for good and solid foundation to be laid for other levels. The classroom is the room where this all important activities take place. The paper unveiled the worrisome status of primary school classroom environment that discourages and mitigates excellent teaching and learning. The purpose of the paper was to examine basic prerequisites of primary schools' classroom ambience for excellent teaching and learning. The design of the study was review of previous and pertinent literature relevant to the study. Stimulation, Individualisation and Naturalness (SIN) were identified as prerequisites of classroom ambience for excellent teaching and learning in primary schools. Based on this, the paper recommended strict compliance to SIN as compulsory for pupils' classroom before approval is granted and routine supervision of schools as a measure to ensure compliance.

Keywords

Classroom Ambiance, Primary Education, Teaching and Learning, SIN

1. Introduction

Proliferation of schools for basic education in Nigeria is now a new normal. On a daily basis, new schools sprout up at all nooks, crannies and jungles that it is now difficult to differentiate schools from other establishments like shops, market, warehouse, animal farms among others. Most often the basic difference among these establishments are the sign post, but the structure and location says little or nothing about schooling activities. Some of these buildings were not initially meant for schooling activities but were overnight converted and transformed into schools where teaching and learning ought to take place. Others that were originally constructed for schooling activities fall short of the basic prerequisites for excellent teaching and learning to take place.

Every establishment has its unique characteristics and peculiarities that defines and identifies it as one set to accomplish and fulfill specific goals for its existence. At present, the crop of schools particularly in its classrooms, the hub of teaching and learning activities in the country tend to deviate from the original intent and mandate of training and cultivation of the human mind. The classroom as the epicenter of schooling activities is a shadow of itself as anything and everything passes for classrooms in the Nigeria educational system even at the primary level. The trend behind this development is the commercialization of education in Nigeria. After oil in Nigeria, the next enterprising business is establishment of schools. Establishment of schools as a commer-

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cial venture captures the attention of everybody not primarily to cultivate the mind but to make profit and abundant gains at the detriment of pupils' growth and development.

Prior to the establishment of school building, the peripatetic schools of Socrates, Jesus Christ, Prophet Mohammed and other great leaders realized its goal of cultivation of the human mind, inculcation of virtues and instilling into pupils moral values for a better individualization, participation and cooperative existence of every citizen. Teaching and learning took place without any school building. In his response to the question: "Great one, what has your great learning done for you?" Aristotle, one of the product of this school answered thus: ' My great learning has enabled me to do willingly-keeping the law, what others do unwillingly-except out of compulsion and not to willingly do, what others do willing. In attestation of excellent teaching and learning of this school, Alfred North Whitehead wrote of Plato one of the product of this schools that all philosophies, learning and knowledge are footnote to Plato. This is so because all aspect of knowledge has its origin and foundation on the early treatises of Socrates, Plato and Aristotle.

The classroom as a room where teaching and learning takes is the most important place in the school. The goals of education are either achievable or negated on the foundation of the classroom ambience. Excellent teaching and learning does not take place in all the rooms called classroom. Hence this study tends to examine the basic prerequisites of primary schools' classrooms ambience for excellent teaching and learning.

2. Background and Justification of the Study

Education is the main driver of change for both personal and societal development ll over the world. According to According to Arop, Owan, and Ekpang [1], maintaining all levels of education is necessary because they are the foundation upon which all other educational levels are built. Education is the key to national development in every modern society. The Nigerian government views education as a basic human right and as "par excellence" means of influencing the country's development (FRN, [2]). However, as Mba [3] noted, there are currently insufficient numbers of public primary schools and teachers for the basic education of children in Nigeria. The level of poor, inadequate and dilapidation facilities at many primary schools make this worse.

Numerous factors, including school facilities, teacher qualifications, motivation, management, and administration, among others, are instrumental to the quality of education. These are the major determinants of qualitative and quantitative education primarily executed in the classroom. In the classroom, teaching and learning which is the main goal for establishing schools take place. All types of educational institutions, including preschools, primary and secondary

schools, as well as universities, have classrooms. It's worrisome and lamented that majority of schools' classrooms lack decency, adequate space, ventilation, and heat insulation (Adeyemi [4]). It is obvious that the sum of these flaws create a significant gap in the standard of an excellent teaching and learning environment.

It's unfortunate that educational planners are more concerned with issues like the number of schools, teachers' employment, and students' access to infrastructural resources like classrooms and school buildings in an effort to advance the educational enterprise, but do not take into consideration the classroom which is the epicenter of learning. Egim [5] attested that the condition of the classroom receives little attention. In the requirements for considerations for approval of schools, the design and structure of the classroom that promotes teaching and learning activities is frequently overlooked.

It becomes clear from careful observation that many classrooms lack the necessary structural elements to promote excellent teaching and learning. The lack of adequate space for movement, the room's dim location, excessive noise (acoustic), the unfavorable temperature, and other factors are best description of many classrooms. As shown in Figures 1 and 2 below, such spaces as classrooms are more of a propagator and progenitor of laziness, ineffective teaching and learning, health hazards, and other negative traits. Additionally, these classrooms foster a terrible depletion of educational objectives and raise the incidence of illness.



Figure 1. Typical external view of Primary school classroom.

3. Conceptual Clarification

Primary education is the official foundation of the education system. Saidu [6] and Sen [7] affirmed that primary education is the foundation for a child's learning on which every other level of learning depends. As the foundation, the success and failure of all the of levels: primary, secondary and tertiary hinges around it. According to the Federal Republic of Nigeria (FRN, [2]), primary education refers to education given to children aged 6 to 11 plus in primary schools.

In other to give primary its appropriate stand to carry out its foundational, crucial and critical role, FRN, [2] enumerated

the goals of this level to include:

- a. Inculcating permanent literacy and numeracy, and ability of communicate effectively;
- b. Laying a sound basis for scientific and reflective thinking;
- c. Giving citizenship education as a basis for effective participation in and contribution to the life of the society.
- d. Moulding the character and develop sound attitude and morals in the child.
- e. Developing in the child ability to adapt to the child's changing environment.
- f. Giving the child opportunities for developing manipulative skills that will enable the child to function effectively in the society within the limits of the child's capacity.
- g. Providing the child with basic tools for further educational advancement, including preparation for trades and craft of the locality.

Providing the child with basic tools and skills for further advancement and realization of other goals are achievable through excellent teaching (output) and learning (input).

Learning is all about a change in behavior. The change is not merely incidental or natural in the way that our appearance changes as we get older (Sequeira [8]). It's a relatively permanent change, usually brought about intentionally. Learning is a universal phenomenon. It is not limited to classroom and schooling activities. Learning starts immediately after birth as the human child begins to adapt to the new environment continues after birth and eventually culminates at death. Lachman [9] describes learning as the process as a relatively permanent change in behaviour based on an individual's interactional experience with its environment. Learning is often guided by teaching.

Teaching is a process that facilitates learning. It is the specialized application of skills, knowledge and attributes designed to provide unique services to meet the educational need of an individual and the society. Abbatt and McMahon [10] precisely noted that teaching is helping other people to learn'. Teaching and learning are interrelated as both has symbiotic relationship.

Presently, there is a shift of the teachers' role from traditional role that was teacher centered to now the modern role that is pupils centered. Traditionally the role of the teacher has been as a purveyor of information: the teacher was the fount of all knowledge. This suggests a picture of pupils sitting in rows in front of the teacher who is talking and passing information to pupils with the aid of a blackboard, while the pupils either listen passively or attentively. The modern teacher is a facilitator: a person who assists students to learn for themselves (Sequeira [8]). Instead of having students sitting in rows, they are likely to be in groups, all doing something different; some doing practical tasks, some writing, some not even in the room but in another part of the building using specialist equipment or looking up something in the

library. All of the pupils might well be at different stages in their learning and in consequence, the learning is individualized to suit individual requirements and abilities. [8]. This gives a purview of the modern classroom ambience.

Abbatt, F. & McMahon, R. [10] identified four elements of teaching to include;

- a. The teacher has to decide what pupils should learn;
- b. The teacher has to help the learners to learn;
- c. The teacher has to make sure that the students have learnt; and
- d. The teacher has to look after the welfare of her/ his students.

Teaching and learning are the main prerogative of education and these takes place inside the classroom. Classroom ambience creates a positive learning environment. It should be a dynamic and engaging place to be for the learners and also for the teachers to engage in teaching-learning activities. The features of the classroom ambience include: Space, arrangement of furniture like seats arrangement for pupils, position of teachers tables, cupboards and shelves; lighting; good ventilation; sound effect; noise control and the way the space is separated from the or linked to the "outside" by walls, corridors or windows. Classroom ambience is everything about the classroom.

An effective classroom ambience would make learners to be active and feel responsible for their learning as well as being comfortably enough to actively participate in the classroom activities. A good classroom is essential for effective teaching and learning. In the plan and preparation of classroom ambience for excellent teaching and learning, stimulation, individualization and naturalness (SIN) are considered as basic prerequisites of classrooms for effective teaching and learning at the primary schools.

Stimulation, Individualization and Naturalness (SIN) as Basic prerequisite for classroom ambience

Classroom ambience for excellent teaching and learning activities should mimic children fancies, fantasies and imaginative affiliations/support. It goes beyond the ordinary rooms in homes and other places. SIN differentiates and delineates classroom ambience for excellent teaching and learning.

3.1. Stimulation (S)

Stimulation is the action of arousing interest, enthusiasm, or excitement. The first stimulant is the classroom itself laying the foundation for other stimulants. Singh, (2014) identified the classroom as multi-sensory environment, a dedicated space or room where other stimulants can be controlled, manipulated, intensified, reduced, presented in isolation or combination, packaged for active or passive interaction and temporally matched to fit the perceived motivation, interests, leisure, relaxation, therapeutic and/or educational needs of the user.

Due to pupils love for fantasies and imaginations, complexity and colour are identified by Clever Classrooms [11] as

the basic characteristics of classroom as a stimulant for teaching and learning.

3.1.1. Visual Complexity

Children world is at variance with adult world. They enjoy a lot of complexity. Simplicity reduces their imaginative potentials. Godwin and Fisher, [12] suggest that diversity, novelty or typicality, introduce visual complexity, which, in turn, affects stimulation and arousal. The degree and level of complexity should be moderate. A mid-level of stimulation is optimal for learning – not too chaotic and not too boring (Barrett, Davies, Zhang & Barrett [13]).

In order to regulate visual complexity, the following suggestions were made

- The displays on the walls should be designed to provide a lively sense to the classroom, but without becoming chaotic in feel. As a rule of thumb 20-50% of the available wall space should be kept clear.
- Placing display materials on windows should be avoided if possible (loss of light), especially if it results in no uncovered areas.
- In deciding how much extra visual complexity to introduce, the basic characteristics of the space (floor plan and ceiling design) should be taken into account and complemented (Barrett, Davies, Zhang & Barrett [13]).

3.1.2. Colour

Colour attracts children. However, a functional learning perspective to colour in the classroom should focus on using colour to achieve positive outcomes such as increased attention span and lower levels of eye fatigue. Coloured environments have significant effects on pupil's learning activity and their wellbeing (Jalil, Yunusb, & Said [14]).

In a similar way, colour choice can also impact the teaching-learning process. Sinofsky and Knirck [15] discovered that colour influences pupils' attitudes, behaviours and learning. Often times, colour either attracts or repels children. Papadatons [16] in his findings suggests that the proper use of color in schools can convert an atmosphere that is depressing and monotonous into one that is pleasing, exciting and stimulating. Change in color schemes in schools reduces absenteeism and promotes positive feeling about schools. Color also affects blood pressure in pupils. Wohlfarth [17] associated warm color with slight elevations in blood pressure. Therefore, lighting and color choice lay a significant role in the achievement of pupil's academic performance (Orlu, [18]).

The use of primary colours is preferable and more meaningful to children. Jalil, Yunusb, and Said [14] are of the view that while colour preference is highly subjective, "red is the most preferred colour for young children and the elderly for an interior environment, while blue is the most preferred colour among young adults, office workers and male students.

3.1.3. Combining Complexity with Colour and Individuality

Primary colors should be used to distinguish each classroom in order to attract children into them. This can be done by applying the colors to a teaching wall in order to focus and stimulate pupils. However, Hughes [19] claims that a natural colour palette is used to balance out the complexity in order to prevent overstimulation from such vibrant colours. Though classroom individuality and colour could upset the harmony required to achieve a balanced complexity, a neutral palette should be used, with brighter colours being used sparingly to support the overall mix required to achieve a good Classroom in primary School [19].



Figure 2. Coloured environment.

3.2. Individualisation (I)

The "I" factor or degree of individualization, is crucial for learning. It is referred to the degree to which the classroom satisfies a particular group of pupils' needs. This may be motivated by taking into account how children's brains process sensory information as well as the fact that each of them develops personal preferences, likes and dislikes.

Two aspects of individualization are identified to include:

- Ownership and
- Flexibility

3.2.1. Ownership

An individual's identity and sense of self-worth are significantly shaped by the sense of ownership. Ownership is the claim that something or some space is one's. According to McMillan [20], private and intimate settings are better for taking in, remembering, and recalling information. This has to do with making a place that children feel is theirs because it reflects their personalities, shows their individual marks, and is designed for children of their size and age (Barrett, [21]). Thus, authority is established a decorum and provides to operate freely within the space. Ulrich [22] distinguished between children classroom ownership and classrooms with elements of pupil-produced projects, displays, and construction that encourage greater participation and involvement in the learning process.

Pupils mark of ownership is identified via:

i. if pupils can establish and leave their mark on the classroom? This is verified if they can recognize and discover themselves in the classroom. This is achieved through displaying student work on the walls and in other ways that highlight their work is a significant component of this.

ii. if the classroom was thoughtfully designed for children of the specified age. This entails the provision of good desks and chairs that are the right size, as well as other furnishings and fixtures that create a space that is child-centered and gives the pupils a sense of belonging and value (Barrett, [21]). Aspects that helped students identify with "their" classroom and child-sensitive aspects are two categories that identify the ownership of classrooms by pupils.

3.2.2. Flexibility

By giving students a variety of opportunities for various learning styles, classrooms can support individualization. According to the Building Bulletin [23], flexibility must be a primary design requirement for school construction. This is to allow and accommodate different activities that attracts active participation of pupils (Higgins, Hall, Wall, Woolner, & McCaughey [24]). Children participate more in class when the classrooms are flexible, and also where teachers can create a more dynamic environment for learning and teaching.

Aspects of classroom flexibility include:

- a. the availability of different spaces,
- b. plenty of wall area for display and
- c. plenty of storage.

Some of these aspects can be relatively fixed at the initial design of the classroom, but others will be dependent on how the space is set up and used as Barrett, (n. d) noted.

3.2.3. Connection

How easily pupils can connect to the other school activities is measured by their connection. The runways between spaces within the school environment play a role in connection when it comes to the atmosphere of the classroom. Safe, unrestricted movement is a necessity in this situation to necessitate and enhance effective link in the school. Garling, Book, and Lindberg [25] point out that using landmarks, a high degree of differentiation between various parts of the school, along with less complicated layouts, makes it easier to navigate and connect within the classroom.

3.3. Naturalness (N)

Naturalness has to do with the environmental and natural conditions necessary for pupils' physical comfort inside the classroom. Light, sound, temperature, air quality, and connections to nature are a few of these identified.

3.3.1. Light

Good natural light extends beyond just improving vision

but also contribute to a feeling of physical and mental comfort. In addition to natural light, two additional sources of light are identified:

- a. artificial and
- b. natural.

To create a decent visual environment, high quality lighting is important so as to see clearly. Large windows in the classroom are ideal for letting in enough natural light, but they must be moderated by the need to prevent glare from direct sunlight. Clever Classrooms [11], which recommends using blinds that are sufficiently opaque to control light levels. The following cautions are suggested

- a. Reducing or avoiding window displays, especially those facing the exterior.
- b. Making use of the interior blinds (shading materials) to actively combat any glare issues.
- c. Carefully positioning a high power projector to reduce the need for blinds.
- d. Planters or shrubs placed outside next to windows can help mitigate issues with excessive amounts of incoming light (Barrett, Davies, Zhang & Barrett [13]).

3.3.2. Air quality

The amount of airflow in the classroom has a significant impact on how well the kids learn. According to World Health Organization [26], ventilation is simply the process of bringing outside air into a structure or room and then circulating it there. It is the movement of air inside a space that impact pupils' health and learning. The general goal of ventilation in buildings is to provide clean air for breathing by removing and diluting pollutants that enter the building (Awbi, [27]). In-mates live healthier lives as a result of this. World Health Organization [26] list three basic components of ventilation to include:

- a. airflow direction — the general airflow direction in a building, which should be from clean zones to dirty zones;
- b. ventilation rate — the quantity and quality of outdoor air provided into the space; and
- c. Air distribution or airflow pattern: Each area of the space should have efficient access to outside air, and each area should also have efficient removal of any airborne pollutants produced there.

The following factors are identified as crucial and urgent for airflow inside the classroom:

i. *Windows with sizable openings:* Poor air quality can be caused by low ventilation rates brought on by roller blinds that block airflow through the top-opening windows and room size are crucial and urgent factors that determine airflow inside the classroom (Barrett, Davies, Zhang & Barrett [13]). Three methods namely: natural, mechanical and hybrid (mixed-mode) ventilation may be used to ventilate a building. Mechanical ventilation can enhance air quality in situations where natural ventilation is not good enough.

ii. *Trees:* Planting trees around the classroom will not only

provide shade but also enhance and improve air flow inside the classroom.

3.3.3. Temperature

Temperature simply is heat and cold, hot, warm and cool. According to Beléndez [28], temperature is often said to be a measure of the degree of hotness or coldness of a body or of a room. This brings about comfort or discomfort that either attracts or repels children in any environment. Zeiler and Boxem [29] and Mendell and Heath [30] have studied the temperature range associated with better learning for several decades. As temperature and humidity increase, pupils report greater discomfort, and their achievement and task-performance deteriorate as attention spans decrease (Wargocki & Wyon, [31]).

3.3.4. Sound and Noise (Acoustic)

Noise and sound levels in the classroom have a significant impact on teaching and learning activities. The distinction between sound and noise, according to Hansen [32], is highly subjective and refers to the same phenomenon of atmospheric pressure fluctuations about the mean atmospheric pressure. What sounds like sound to one person may be noise to another. Even from the base of the classroom structure, sound and noise should be reduced or eliminated because they can be distracting in a learning environment. Hansen [32], confirmed sound (or noise) is caused by pressure changes, or oscillations, in an elastic medium (like air, water, or solids), which are caused by a vibrating surface or turbulent fluid flow. Sound can therefore be controlled by checkmating the medium that propagates sound or noise.

To reduce the production of noise and sound pollution

Classrooms need to be placed away from noisy public areas like the playground or reception areas. In classrooms without acoustic barriers like distance plus trees and shrubs, traffic noise can also be a problem.

Chairs with rubber feet can lessen unwanted noise inside the classroom.

When students can sit closer to the teacher, it is easier for teachers to be heard by the class. This kind of seating arrangement can be used in a room with a higher length to width ratio (Barrett, Davies, Zhang & Barrett [13]).

3.3.5. Link to Nature

Children admire a lot of nature. Nature is not only colourful through its greenish outlook, but also splendid with the brightness of the sky. It is widely acknowledged that having a lot of usable outdoor space improves the quality of life in a school. The variety can enhance a location's aesthetic appeal as the seasons change the local climate. Due to their greater plasticity and vulnerability, research suggests that exposure to nature has profound advantages for children ((Wells and Evans [33] & White [34])).

Therefore, Barrett, [21] provided the following suggestions

for positioning classrooms:

- a. Classrooms with views of the outdoors seem preferable. This includes outdoor features like trees, ponds, gardens, and grass. The window must have sills that are at or below the level of the pupils.
- b. Classrooms that opened directly onto a playground are preferred.
- c. Natural elements such as plants and wooden furniture can play important role in the classroom

4. Conclusion

Excellent teaching and learning in primary schools is possible and achievable through appropriate and adequate arrangement laid on the foundation of good classroom ambience. Teaching as an art and learning as a process are the principal prerogative of the entire educational system and the classroom as the original house for this activities occupy very important position. Stimulation, Individualisation and Naturalness identifies classroom ambience not only for excellent teaching and learning but inevitable for classroom place in achieving the goals of education.

In light of this, the following recommendations are offered:

- a. Classroom layouts that adhere to the SIN model, which serves as the fundamental standard for approving primary schools.
- b. Controlling the environment in primary school classrooms to ensure that it is ready and prepared for excellent teaching and learning.
- c. Adding the classroom environment to Universities, Polytechnics and Colleges of Education curricula of studies.

Conflicts of Interest

The author declares no conflicts of interest.

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