

IMPACT OF ENVIRONMENTAL FACTORS ON TEACHING AND LEARNING IN PUBLIC SECONDARY SCHOOLS IN KOGI STATE

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Abstract:

There are various challenges militating against effective teaching and learning process in public primary and secondary schools in Kogi State resulting in the continuous decrease in the quality of instruction in public schools which in turn as discouraged many parents/guardians from enrolling their children/wards into these school.. This study examines perceived impacts of environmental factors on teaching and learning in public secondary schools in Kogi state. Some of the identified Environmental factors negatively affecting teaching and learning in public secondary schools in Kogi state includes; school location, laboratory technical workshop environment, class equipment, class size, noise, light, nutrition, exercise and so on. Based on the findings, this study recommends: that it is important for government at the local, state and federal levels to provide adequate material resources to rural and urban schools in Kogi state to enhance teaching and learning processes. The principals of public secondary schools in Kogi state should also plan and adequately utilize the little funds available for developing priority areas in the school so as to improve the learning environment. This would make the learning environment attractive and comfortable for teaching and learning.

Keywords: Environmental factors, Teaching, Learning, Classroom, Noise and Lighting.

Introduction

The education system in Nigeria is faced with several challenges and the public primary, secondary and tertiary institutions are the worst hit. In recent times, there has been a growing public anxiety about teaching and learning conditions in Kogi State secondary schools which has led researchers, educators, government officials and the general public to question the quality of teaching and learning in these schools. Many factors have been identified to be responsible for the continuous decrease in the quality of instruction in public secondary schools which include teacher factors such as teacher's qualification, experience, competence and commitment. There are also school factors such as school location, equipment and facilities, accessibility and school leadership. There is need to take very urgent and proactive steps to forestall total collapse.

Environment is anything that surrounds the child, both at home and in the school. It plays an important role in determining the behavior and personality development of an individual. The bulk of the education and socialization of individuals occur within the environment, it is also universally accepted that education enables individuals to contribute to

the development and improvement in the quality of life for themselves, their communities and entire nation. This paper therefore examines the various environmental factors that influence the teaching and learning process in Kogi State public secondary schools, with a view to recommend ways of improvement in order to increase the quality of learning outcomes in these schools.

Environment in Teaching - Learning Process

A child's environment is his/her surrounding where he or she is learning. It is a natural world that may affect the child's learning activities. Thus a child's environment can be his/her home or school. Family members and people in the students' immediate environment constitute an important social environment for the students learning. Okeke (2009), stated that sometimes parents and family members contribute a lot in discouraging children from choosing science subjects, they make the student believe that science subject are difficult to understand. Such prejudices should not be promoted in school environment in order to help attract students to science subjects like biology, chemistry, physics, Agriculture. In Nigeria, environment is not fully utilized for teaching science and this has contributed to student poor performance especially in science. Environment is very important to science teaching as it is rich in materials that can be used for science improvisation as there are many places that students can visit for excursion and many community resources for science learning. Improvisation is the act of using alternative materials or equipment obtainable from the local environment, constructed by the teacher or with the help of local personnel to facilitate instruction. Balogun (2012), affirmed that "improvised equipment that which is designed and/or constructed by the teacher or with the help of some carpenters, blacksmith, trade Centre, technical institute, polytechnic, etc. such an equipment is generally not mass production, rather it is made by or specific teacher or school.

The term local 'materials' refers to those materials which are easily obtained from the immediate environment irrespective of where they are produced. Improvisation in teaching and learning of various subject have become very important because the economic situation has made the cost of facilities and equipment very high amidst decreasing or near lack of purchasing power. According to Osuagwu (2010) improvisation is the provision of materials locally make by teachers, students, or an educational agency to represent the original materials or equipment. Enaiayeju (2003) posited that improvisation in teaching is the act of using alternative materials and resources to facilitate instruction whenever there is lack or shortage of some specific first hand teaching aids. It is not easy to achieve quality teaching - learning outcomes through the use of verbal words; therefor production of locally made instructional materials is very necessary.

Environmental psychology has shown that the physical environment has an impact on human thinking, behavior, feeling and attitude. Environment influence student learning and success as scientists now believe that environment is far more important to student success than genetics; for instance, a student is exposure to factors such as love, home atmosphere, affection, siblings, friends, class/schoolmates, neighbor's teacher's etc. help to shape the personality and intelligence quotient of such individual or student.

Learning Environment and Student Achievement

Learning environment includes the physical environment in which the student learns. It is made up of all the classrooms and set up for learning activities in a school facility. Physical environmental factors of a school system refer to touchable objects which include school facilities such as administrative building, classrooms, teachers offices, laboratories/workshops, libraries, health facilities and well laid out fields and sporting units, hostels, dining halls etc. A well-designed learning environment takes into consideration the essentials of the learning

process and the latest technological development. Gilavand, Espidkar and Gilavand (2016) affirmed that students studying under well designed environment increase their physical comfort and decrease their mental distress. Reinforcement theorist agree that motivation is in the environment, not in the person such as the teacher (stipek, 2013). However, it is the teacher who plays the greatest role in setting the atmosphere (Whitaker, 2013).

SCHOOL ENVIRONMENT

School environmental factors include all aspects within the students surrounding at school that influence the teaching-learning process. The school environment refers to factors within the school that influence the teaching – learning process which includes classrooms, library, technical workshop, teacher quality, teaching methods, peers, amongst others. (Adeshina, 1990) stated that the environmental factors provided in the school could enhance the extent to which students learn

A good school environment will enhance the quality of teaching – learning outcomes which will provide the students with good social, political and economic emancipation. It is believed that a well-planned school will gear up expected outcomes of education that will facilitate good social, political and economic emancipation, effective teaching-learning process and academic performance of pupils. Relating this study to international occurrences are the assertions of Williams, Persaud and Turner (2008) quoting Marsden (2005) which reported that safe and orderly classroom environment, school facilities were significantly related to students' academic achievement in schools.

SCHOOL LOCATION

School location is where the school is located or sited. Kogi State schools are either located in urban or rural centres and the type of setting sometimes determines the prevailing environmental factors. Most rural set up in Nigeria are burdened by many challenges which include subsistence agriculture, bad roads, poor drinking water, large population, scattered families, illiteracy and ignorance, lack/irregular supply of electricity, few primary and secondary educational institutions and dirty environments. According to Adeshina (1990) the bulk of the Nigeria population. Like most developing countries live and earn their living in the rural areas. he further stated that a good percentage of this rural populace are non-literate with poor educational background. The school environments in these rural areas are not conducive for learning because of insufficiency/absence of basic facilities such as health clinics, toilet facilities, good drinking water, good looking buildings for classrooms, laboratories, technical workshops, staff offices, sport units etc.

In most of the places, because there are no good toilet facilities or water to keep them clean both human and animal faeces are seen littered all over the school compound omitting foul smell and causing air, land and water pollution when the faeces eventually gets washed into the community's rivers, streams, lakes and other natural water bodies which usually form their source of water for domestic uses. This endangers the health of both parents, students, teachers and other inhabitants of the community leading to an outbreak of various diseases such as cholera, typhoid fever, dysentery etc.

Most of the schools do not have good classrooms and furniture, buildings are old and dilapidated with leaking roofs, detached windows and doors and as such students are made to learn under shades and trees. Rainstorms sometimes occur resulting to disruption of teaching and learning. Furthermore, most timber dealers and even residents carry out mass destruction of trees that provide shade, beauty as well as purifying the environment, most times, school premises are not properly cleaned but left with overgrown grasses, pieces of broken furniture heaped in old dilapidated buildings which could become an abode for dangerous animal such as snakes, scorpions, rodents etc. All these practices degrade the environment, and are hazardous to teaching and learning process. Lewinski (2015) reported that there is a direct

positive relationship between good facilities possessed by schools and the performance of teachers and school children. He also stressed that facilities include painting the worn out walls, repairing the leaking roofs, fixing the broken concrete floors and chairs. The physical facility comprises of the movable and immovable object in schools that bring comfort to the learners such as classrooms, offices, laboratories and toilets, sports unit, good open fields.

Most rural communities in Nigeria lack infrastructural and social facilities such as good roads, electricity, health centers, good housing e.t.c. In addition the rural communities are less densely populated than the urban ones out in a large geographical area and secondary schools are located in communities in such a manner that students, teachers and other workers trek long distance to get to school; this could exert physical stress on them and influence their concentration on the teaching and learning process as well as causing lateness to school and absenteeism UNESCO (2002), stated that more than half of the world's population and more than half of the world's poor live in rural areas where hunger, illiteracy and low school achievement are common place. Also absenteeism and lateness were identified as a hindrance to effective teaching and learning of agricultural science (Ransford, Christiana, yuan and liu, 2015). Such situation makes it difficult for the teacher to complete the syllabus on time.

Laboratory/Technical Workshop Environment

Teaching methods is a vital factor in academic achievement and students understand better when they are being taught with practical's which usually occur in the laboratories. The theoretical aspect of any subject must go in line with the practical aspect in order to attain positive behavioral change in the life of the learner. Performing practicals regularly helps to make abstract ideas more concrete for learners, It aids them to understand and to retain basic concepts better, make learning interesting, keeps the student active as well as create a conducive atmosphere for a particular class during teaching. This will enable students to discover facts and new ideas on their own. Some teachers are incompetent in the use of certain laboratory equipment while some students have wrong attitudes towards practical's. so availability of adequate equipment which can be used to perform practical's on a regular basis could arouse the students interest In practical's as well as improving the teacher's competence or proficiency in handling various equipment.

In most public secondary schools, science is being taught as literature because of lack of facilities in the schools.

Akpan (2011) stated that laboratory is the method used in effective teaching and learning of science subjects, such as biology, chemistry, physics, agricultural science, etc. Iloeje (2005) in his lesson for effective biology practical activities affirmed that of all the five sight (eye) is the highest of all. This implies that practical lesson are very important as they help learners to comprehend lesson better and it is necessary to integrate practicals with theory according to kildare and okoro (2007) student understand better when they participate in practical experiments during practical lessons and obtain their results. Such student are able to remember the procedure involved and also feel proud of obtaining the correct result. Obidiwe (2005), in his discussion on science curriculum in Nigeria reported that whatever project is selected, theory and practical should go hand in hand .he further stated that the practical aspect of biology is neglected so much and when taught at all, the students are almost preparing for their senior secondary school certificate examination, as a result students student fail biology in their SSCE thus confirming the above situation.

Classroom Environment

The classroom is a room where the teacher and students/learners gather to hold lessons. Most of the classrooms in Kogi State public secondary schools either do not have electricity or where

available, the supply is very irregular. This is also obtains in the staff offices laboratories, technical workshops and even living homes. This leads to learners, teachers and other members of staff in the school working and learning under harsh/hot weather. In some schools especially in the urban centers, the classroom space is usually inadequate as most of the public secondary schools have large class size and students struggle for space. When the physical facilities such as classroom are inadequate, it could affect the quality of instruction as well as the academic disposition of the students. Good school environment with adequate physical facilities can foster desirable quality instruction, behavior, creativity harmonious relationships and problem solving skills.

Most classrooms especially in the rural/urban areas are not equipped with good furniture such as desks and chairs for students. They have to provide their own furniture which might not be adequate. Many of the teaching and non-teaching staff do not have comfortable chairs and tables to sit on, sometimes these classrooms have no doors and when available, they are dilapidated and have no locks thus creating an avenue for some residents of the community who could use the classrooms as church to remove the chairs from the classroom and for other people who could carry the furniture away from the school premises or play with them thereby destroying them. Frazer affirmed that the physical characteristics of the school have various effects on the teachers, pupils and the learning process such as poor lighting, noise, high level of carbon-dioxide emitted in classroom, in consistent temperature make teaching – learning process difficult. According to Asiyai, (2014), the nature of the classroom environment has positive influence on how well students achieve educational outcomes Mauilang, (2013), opined that when a teacher creates a welcoming environment and consider the needs of the students, learning outcomes will be ideal as students will effectively perform task they find personally important or interesting. Therefore, it is important that students should have a peaceful, caring and positive learning environment which enhances the joy of learning. Finally, Hayes (2010), concluded that teachers classroom and their interaction with their biology students are seen to have the greatest effect on biology students learning outcomes.

An instruction is the process of facilitating student learning through the use of appropriate instructional techniques and technology by the teacher. Some of the factors which can influence the quality of instruction in the rural areas include lack of or deplorable state of physical facilities, arbitrary transfer of the teachers who may likely wish to work in urban Centre's where modern social amenities such as electricity, good source of water, means of transportation, health facilities etc. are easily accessible.

Afolabi (2002) reported that most classrooms of the rural schools in ondo state were inadequate in terms of electricity, space, ventilation and insulation from heat also the incinerators and urinals were not conveniently placed and the school plants were poorly maintained. He further stated that these combined deficiencies constitute major impediments to quality of learning environments and resulted in the non-attainment of the set quality standards in secondary education, He therefore concluded by stating that desirable results of education could only be achieved with good quality of teaching in adequate environment.

Class Size: Class size means the number of student's/learners in any particular class in a school. Most schools located in the urban areas have large class sizes because of insufficiency in the number of building and classrooms, dense human population and high enrolment of students in schools, The usually high class size which occurs mostly in urban areas make it difficult to move freely inside the classroom. The students sit very close together hence they cannot move freely. This could make it difficult for them to perform certain task

Noise: Noise is known to have a major impact on human performance. Chiang and Lai (2008), investigated and identified some of the negative effects of working in a noisy room with focus on young children. They claimed that noise influence learning outcomes as well as the health of the occupants. That also noise undermines reading, writing and comprehension skills as well as overall academic performance of pupils as it makes it hard to focus on task being performed. The level of noise in urban communities is higher than that in rural communities as a result of several sources of noise such as cars, trucks, trailers, trains, airplanes, various kinds of factories activities, activities of artisans' using different working machines and tools while performing their tasks e.g. welders, carpenters, blaring of vehicle, bike horns, loudspeakers, musical gadgets, markets etc.

Noise is the type of pollution in which unnecessarily loud and unpleasant sounds of more than 80 decibels are produced. It can cause harm to humans. Prolonged exposure to noise can cause severe loss of hearing; it also gives rise to emotional stress irritability, lack of sleep, High blood pressure, psychological disturbance and decrease work productivity. Noise pollution can come from various sources; which include heavy machinery, traffic, transportation, construction sites, mining activities and airport runway. Major sources of noise pollution also include electronic sound devices, television set, radio, etc.

Light: The purpose of school light is to create an environment in which the act of seeing is made possible with minimal discomfort and effort. This enables students to concentrate on learning process rather than to worry about seeing problems. Furthermore, reading or performing some academic task using poor light, can degenerate the sight of individuals. The light requirements for carrying out various activities are different. Class lighting is provided in most schools through natural light such as windows, valves, while artificial light could be provided through the use of all kinds of electricity generating sets, solar systems, batteries etc. used to supply power to light lamps, bulbs. In choosing the location of a school, the amount directions and quality of light must be put into consideration. (Gilavand, Espidkar and Gilavand, 2016)

Nutrition: Experts on nutrition recommend that people should eat healthy meals, this includes students, teachers and other staff of the school. Regular consumption of balanced diets which contain all the six classes of food items such as proteins, carbohydrates, fats and oils vitamins, minerals and water in the right proportions allow our bodies to function at the highest level as well as provide energy needed to perform various tasks. Consumption of sugary foods should be reduced (UNICEF 2013) sugar foods cause inflammation resulting to decrease in blood flow and slowed body functions decreasing concentration and memory. When students do not consume balanced diets regularly, it results to malnutrition. Malnutrition is defined as a chronic condition which is a consequence of over or under consumption of any or several essential micronutrients relative to the individual's physiological and pathological requirements (Ecker and Nene, 2012). Chinyoka and Naidu (2013), affirmed that poor nutrition can be caused by lack of food or an unbalanced diet, which is missing or insufficient in one or more nutrients.

Regular consumption of a balanced diet is important in academic performance of children under age of fifteen. According to Brawl et al, (2012), underfeeding in childhood is thought to hinder mental development solely by producing permanent structural damage to the brain. Generally, school children should be fed with diets containing the necessary nutrients in the right proportion starting from their early age, as improper feeding of students /children has very grave consequences. Research has established that malnutrition in early life can limit long term intellectual development. (Lacourt and tissiton, 2011). Furthermore, (Brauw A. Meenaksh J. and Gilligan D. 2012). Reported that a deficiency of vitamin A affect about 100 million

children of 3-7 years of age in the world and causes blindness. Finally, malnutrition weakens the immune system reducing the child's resistance to infections.

Exercise: Extracurricular activities such as sports/games are very important activities that should be included in the school curriculum. This will require the provision of sporting facilities of all kinds such as volley ball pitches, basketball pitches, lawn/table tennis courts, footballs, javelin, discus, skipping ropes, well laid out field where sport activities can take place. The three requirements of human life are food, drink and oxygen. But their effect on survival have different timelines. You can live for about 30 days without food, about 7 days without water. The human brain however is so active that it cannot go without oxygen for more than five minutes without risking serious and permanent damage. They further explained that exercise does provide oxygen and food via stimulated blood vessels that penetrate deeper into the tissues of the body, the more you exercise, the more tissues you can feed and the more toxic waste you can remove. Thus exercise improves the performance of all body functions in humans which include students and teachers.

Relationships: The type of relationship existing between the teacher and student is crucial to the success of teaching and learning process, when teachers form positive bonds with student's classroom becomes a space in which students can engage in academically and socially productive ways (Hamre and Pianta 2004). Positive teacher – student relationship is classified as having the presence of closeness warmth and positivity, they also asserted that when students have positive relationship with their teachers, they feel secured and can explore the classroom and school setting academically and socially. It helps them to take academic challenges and work relationship with peers as well as developing self – esteem and self-concept.

Teacher – student relationship can deteriorate for various reasons, first some teachers who may be new to the profession, want to gain acceptance and approval from students and may become too friendly or familiar, they begin to consider students as peers become too lenient with them and fail to support the professional standards set by more experienced and skilled teachers. The teachers regard for their students, their response to students question and interest, the emotional climate of the classroom all related to student achievement. The approach in the learning environment needs to encourage good teacher – student interactions as a peaceful, caring and positive learning environment enhance the joy of learning. According to Mualang (2013), when a teacher creates a welcoming environment and considers the need of the students, learning outcomes will be ideal and students will effectively perform tasks they find personally important or interesting. Asiyai (2014), also affirmed that the nature of the classroom has a powerful influence on how well students achieve educational outcomes. The approach to teacher – student relationship could lead to poor classroom management and cause low student attainment levels and disrespect from some students. In addition, the teacher – student relationship could become poor when students are convinced rightly or wrongly that teachers do not care about them and are not interested in whether they pass or fail their examinations. In such situation the student will not trust the teachers and may disengage from subject taught by these teachers or seek help from other sources which might be dangerous. They thus become uncooperative in the classroom. Teacher – student relationships are strong predictors of behavioral and academic outcomes (Hamre and Pianta, 2008). Birch and Ladd (2012) also affirmed that students who have poor relationship with their teachers usually experience low rating of competence, less praise and poor academic outcomes. According to Hyman and Snook; (2011), who defined emotional maltreatment in schools as any disciplinary or motivational practice that psychologically hurts children. Such practices include humiliation, rejection, excessive authority, sarcasm, other disciplinary techniques that can

develop (in the child) a cluster of symptoms such as neurotic traits, habit disorders, shyness and withdrawal. Some of these manifestations may be temporary or may last the students entire life.

Learning is about relationships, anything we do or say in the learning environment could positively or negatively impact student competency and comprehension in the learning process. A teacher who builds positive relationships with students decrease the level of discomfort in the classroom and so students perform better in their academic activities. A happy environment helps students to learn better, Supportive and positive relationships between teachers and students ultimately promote a 'sense of school belonging' and encourage students to participate cooperatively in classroom activities (Chum and Elder, 2011)

Conclusion

This study has established that various environmental factors have grave consequences on teaching-learning process at all levels of education and public secondary schools in particular as the continuous degradation of physical facilities within the school environment, due to poor funding by successive governments at all levels and other cannot aid the young secondary school graduates to attain the laudable objectives of secondary education for sustainable national development.

Recommendations

Education is a critical tool used for social, economic, political and technological development of societies worldwide. Therefore, the importance of education to the development and sustenance of the state cannot be overemphasized as it helps in poverty eradication, self – reliance and national development. The following recommendations are hereby suggested.

- Physical facilities such as buildings used for various purposes should be renovated urgently and where necessary, very old dilapidated ones should be knocked down and replaced with modern structures. This will add colour to the school environment and make teaching – learning more fun in order to promote better learning outcomes.
- Physical facilities and other basic social amenities such as roads, pipe borne water, good transport systems, regular supply of electricity, Well equipped hospital/health centers manned by various categories of qualified health workers and other professionals which may be absent in the school and the host communities should be provided where they are available, but ill-equipped they should be equipped with modern instructional materials and equipment which will improve the quality of the teaching-learning process and outcomes.
- The conditions of services of teachers and other workers in the schools should be made more attractive, salaries, allowances, annual salary increment, and promotions paid in full as at when due. This will restore prestige of the teaching profession and attract highly intellectual youths to join the profession.
- Provisions of basic social amenities in the host communities will encourage students to study and teachers, other workers in the school and residents of the host communities to live decent and healthy lives.
- Also, the availability of basic amenities will encourage teachers and other workers and students to reside within the communities especially those schools which are located in the rural areas, will prevent and reduce lateness to school and absenteeism.
- Teachers, parents and students should strive to accommodate themselves in order to build a good relationship that will be beneficial to all and promote teaching – learning in schools

- Nutrition education should be taught in schools, health centres, places of worship, communities and all other settings this will teach the parents especially mothers the right food/diets which will help the family and children in particular to develop properly both mentally and physically. Families should endeavor to eat and enjoy a variety of fruits and vegetables regularly.

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