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CLASSROOM ENVIRONMENT AND ACADEMIC PERFORMANCE OF CHEMISTRY STUDY IN CALABAR MUNICIPALITY CROSS RIVER STATE NIGERIA.

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Abstract

The study aimed at assessing how classroom environment .predict students‟ achievement in chemistry Two research hypotheses were raised and stratified random sampling technique was used to select 100 chemistry students for the study. Classroom Environment Questionnaire (CEQ) and Chemistry Achievement Test (CAT) were used for data collection and analysedusing independent t test. The results showed that classroom environment significant contribution to students‟ achievement in chemistry.. It was recommended that stakeholders in provision of chemistry education at the secondary school level must consider the significantly of classroom environment seriously during planning and executing chemistry education programmes for optimum achievement of students in chemistry.

Key words : Classroom ,environment, chemistry, achievement, ventilation

Introduction

Chemistry is the core of the basic sciences and plays a vital role in the advancement of technology which is oneof the aims of the Nigerian Education Programme. Chemistry is one of the pre-requisite for admission inNigerian tertiary institutions to study any of the science and science related courses. It is therefore required thata student should obtain at least, a credit in Chemistry in West African Senior School Certificate Examination(WASSCE) to qualify to read courses like Medicine, Pharmacy Engineering, Industrial Chemistry, Technologyand other Applied Science courses in the tertiary institutions The Joint Admission and Matriculation Board (JAMB) (2018/2019UME/D)

The study of chemistry enables an individual to comprehend chemical processes that lie behind every phenomenon. In essence, chemistry performs the function of gate keeper or a pre-requisite to further study in all science at tertiary education level, be it clinical, pure, basic, medical, allied medical, agricultural or environmental sciences (Olatoye and Afunwape,2004).

The level of development of any country is largely based on the level scientific knowledge. Progress in science dependupon continuous scientific investigations. Many researchers have reported that, well-organized and well-equipped laboratories are essential in science teaching. It has also been shown that one of the most important factors in science teaching is the attitude which determines behaviour (Amjad& Muhammad, 2012).

. In spite of this importance of Chemistry, a poor performance has been recorded for the subject over many years. Njoku,(2003) reported that the low academic performance in chemistry has impeded the attainment of the National policy in Education. his can be seen in the 60% in enrolment in tertiary education would be students in sciences and 40% of students in Art and Humanity.

Factors that influence students' achievement at the senior secondary school are multivariate and it is a matter of great concern to Nigerian government. These factors include – teachers' qualification, quantity of instruction and attitude (Caleb, 2001: Buker&Ibi, 2003): social environment factor (Udoh, 1998); socio-psychological factors (Umoinyang&Okpala, 2001), teaching learning resources, teachers' characteristics, pupils' school-community, school and teacher characteristics, student, community, school and teacher characteristics, classroom context,

A conducive learning environment has the following components such as acoustic value furniture, ventilation, and thermal comfort must be provided In addition, Fraser and Fisher, (1982) examined the normal learning climate. They proposed 680F to 740F as the required learning temperature. Although Lizzio et al, (2002) noted that optimal learning climate varies from region of a country and with seasons of the year. So, the usage of actual learning environment varies according to different type of schools and society. Academic achievement in Science subjects as well as Chemistry science is greatly influenced by several components of learning environment as revealed by various research works (Akinsola., Tella&Tella, 2007)

Method

This study under took an expost-facto research design. The study was carried out in Cross River State of Nigeria., A sample size of 200 students were used for the study. Two instrument were used in the study i. Classroom Environment Questionnaire (CEQ) and Chemistry Achievement Test (CAT). All the instruments were developed by the researcher, The reliability CEQ) using Cronbach alpha was 0.61 while that of Chemistry Achievement Test (CAT) was .77.

RESULT/DISCUSSION.

Two hypotheses were formulated to guide the study:

1 There is no significant difference between classroom ventilation and the academic performance of students in Chemistry.

2 There is no significant difference between classroom acoustics nature and the academic performance of students in Chemistry.

Table 1 Independent t test of the analysis of the difference between classroom ventilation and the academic performance of students in Chemistry.

Classroom ventilation	N	MEAN	SD	t-cal
Good Bad	69 131	9,41 3,37	11.34 3.94	5.117

Significant ar,05 t-cri = 1.94, df= 198.

The result on Table 1 showed that the calculated t value at .05 significant level with 199 degree of freedom was 5.177.This value was greater than the critical value of 1.94. The null hypothesis which stated that ventilation in chemistry classroom does not affect the academic performance of chemistry students was rejected. This therefore implied that classroom ventilation affect students achievement in chemistry.

Table 2 Independent t test of the analysis of the difference between classroom acoustics nature and the academic performance of students in Chemistry.

Classroom acoustics nature	N	MEAN	SD	t-cal
Good Bad	98 102	7.99 4.51	19.0 16.31	4.31

Significant ar,05 t-cri = 1’94, df= 198.

The result on Table showed that the calculated t value at .05 significant level with 199 degree of freedom was 4.31.This value was greater than the critical value of 1.94. The null hypothesis which stated that classroom acoustics nature in chemistry classroom does not affect the academic performance of Chemistry students was rejected. This therefore implied that classroom acoustics nature affect students achievement in Chemistry.

DISCUSSION

This study was embarked on to seek for the effect classroom environment on academic achievement in Chemistry.

Results show that there was a positive significant effect between classroom environment and academic achievement. This finding collaborated with those of(Akinsola.,Tella&Tella, 2007) and Lizzio et al, (2002) who wrote that classroom

physical environment acts as a 'silent curriculum'
The reason for this is that when a classroom environment is favourable, the students are comfortable and likely to get much information compared to those who are uncomfortable. When a classroom is well furnished with physical facilities coupled with an appealing social and psychological climate, learners become attracted to and interested in
the activities going on in such a classroom environment.
Kened (2000) and Benard (2000) found out that good ventilation in the classroom is fundamental to the academic performance of students in school. Blumbury (2003) was of the view that classroom building should be such that it should absorbed and transmit sound viewed.

CONCLUSION

From the result of the study, it could be concluded that classroom environment is a vital factor that can affect academic achievement of learners.
Students'academic achievement can be achieved in a classroom that is well ventilated and is sound proof.

RECOMMENDATION

It is therefore recommended that the issue of providing a conducive and vibrant school and classroom environments for the students should not be swept under the carpet.. Towards this direction, governments at all levels should make funds available for this purpose and ensure that befitting classrooms.

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