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A SURVEY OF INFLUENCE OF ENVIRONMENT AS A MOTIVATOR ON SECONDARY SCHOOL STUDENTS' PERFORMANCE IN MATHEMATICS IN NIGERIA

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ABSTRACT: The study investigated the Influence of Environment on the Performance of Secondary School Students in Mathematics in some selected States of the Northwest of Nigeria. The study is a survey research type and the sample size is 1000 Secondary School Students from Three States of Kebbi , Sokoto and Zamfara . The self-developed questionnaire was used for data collection and the percentage and mean were used to answer the research questions while Chi-square was used to answer the hypothesis. The finding revealed that the Environment of the School and the Student's house has influence on the student's Academic Performance in Mathematics. The researcher recommended that School should be cited far away from noisy areas such as Market and Industrial estate. This will control the pollution of the Environment and distraction from Academic work. Research study like this can also be conducted using other Geo-political areas of the Country or any other part of the World.

INTRODUCTION

The term environment can be regarded as the surroundings in which an organism operates which include air, water, land, natural resource, flora, human and their interrelation (Romer, 1993). Owitti (2001) stated that environment of an organism includes both the physical properties such as local biotic factors like climate and geology, as well as other organisms that share its habitat. The environment based on the above definitions can be seen as a complex of physical, chemical and biotic factors such as climate, soil and living things that act upon an organism or ecological community and ultimately determine its form and survive. In other words, the environment is the sum of all external conditions affecting the life, development and survival of an organism. Among the factors responsible for the state of learning in general and mathematics in particular is environment. Condition of learning environment matters a lot in the students' learning ability. The environment of a student is both school and home environment. This research study tried to find out the extent to which both school and home environment influences student's performance in mathematics.

METHODS

The research is a survey study in which 1000 secondary school students were both purposively and randomly sampled from the population of senior secondary school students from Kebbi, Sokoto and Zamfara states of Nigeria. The students sample size per state is in ratio 7:7:6 for Kebbi, Sokoto and Zamfara states respectively. Researcher's self-developed questionnaire was used for the study .Items in the questionnaire were based on school and home environment condition of the students. The questionnaire was subjected to validation and has reliability coefficient of 0.71 using test-retest procedure. The questionnaire was administered personally by the researcher in the three states and did the analysis using the mean to answer the research questions and t-test for testing the hypothesis.

Research Questions

The following research questions were answered in this study.

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1. Does the environment has any influence on the student’s performance in Mathematics?
2. Does the school environment has any influence on the student’s performance in Mathematics?
3. Does the students’s home environment has any influence on his/her mathematics performance?

Research Hypothesis

The following hypothesis was tested in this study.

There is no significant difference in the students’ view on the influence of school and home environment on their performance in Mathematics.

RESULTS and FINDINGS

The researcher used Likert Scale of four points for the transformation of the opinion of students of strongly agreed, agreed, disagreed and strongly disagreed into quantitative data. The acceptance of influence level used for the study is 2.50. The analysis techniques used to answer the research questions are the frequency counts and means.

Research Question 1: Does the environment has any influence on the students’ performance in Mathematics?

Table 1. Students’ View on Influence of Environment on Performance in Mathematics

Item	Students ‘View				Total	Mean	Dec
	Strongly agreed	Agreed	Disagreed	Strongly Disagreed			
Schools located around Factories are exposed to noise and air pollutions which contaminates the air and causes health problems to the students. this induces drop in students performance in mathematics	700	200	50	50	1000	3.55	Acc
Stimulating environment promotes positive attitude in students and enhances performance in mathematics	800	100	100	0	1000	3.70	Acc
Condition of learning affects teacher’s behavior and attitude towards teaching and consequently affect students’ performance	850	150	0	0	1000	3.85	Acc
School building condition can affect student’s self – worth and esteem and may influence his performance in Mathematics	750	150	75	25	1000	3.63	Acc
Poor school environment leads to poor attendance, low concentrate and unhealthy motivation in which leads to student’s poor performance in mathematics	700	200	50	50	1000	3.55	Acc
Teaching mathematics under hot afternoon makes students lose concentration and may affect their performance in	900	75	25	0	1000	3.88	Acc

mathematics

Unhealthy school environment exposes students to disease	950	25	25	0	1000	3.93	Acc
and this affects their performance in mathematics							
Poor lighting and ventilation in the classrooms affects student's behavior such as paying no attention to their teachers and thereby affect their performance in mathematics	600	150	150	100	1000	3.25	Acc
School environment affects student's Performance in mathematics	750	150	75	25	1000	3.63	Acc
My house is always dirty	25	100	100	775	1000	1.38	Rej
My house has a reading room/ library	50	50	100	800	1000	1.35	Rej
Conducive home environment enhances child academic success	600	150	100	150	1000	3.20	Acc
My house is located in an isolated area	25	50	250	675	1000	1.43	Rej
My parent always involve in my homework and assignment	550	150	200	100	1000	3.15	Acc
The child's home environment plays an important role in the mathematics performance of the child	650	150	125	75	1000	3.38	Acc
Total	8900	1850	1425	2825	15000	2.99	Acc

From table 1 above, the means score on view of students on influence of environment on their learning and performance in mathematics is above 2.50 on 12 items of the 15 items, and the mean of the 15 items is 2.99. This shows that the environments do influence student's performance in mathematics.

Research Question 2: Does the school environment has any influence on the students' performance in mathematics?

Table 2: Student's View On Influence Of School Environment On Their Performance In Mathematics

Research Question 3: Does the students home environment has any influence on his/her mathematics performance

Table 3. Students View On Influence Of Home Environment On Their Performance In Mathematics

Item	Students view				Total	Mean	Decis
	Strongly agreed	Agreed	Disagreed	Strongly disagreed			
10.	25	100	100	775	1000	1.38	Rej
11.	50	50	100	800	1000	1.35	Rej
12.	600	150	100	150	1000	3.20	Acc
13.	25	50	250	675	1000	1.43	Rej
14.	550	150	200	100	1000	3.15	Acc

15.	650	150	125	75	1000	3.38	Acc
Total	1900	650	875	2575	6000	2.32	Rej

Items 10 to 15 in table 1, answered research question 3. From table 3 above, the mean of mean score is 2.32, which is below 2.50 acceptance level. Therefore the student's home environment has no influence on their performance in mathematics.

Research Hypothesis: There is no any significant difference in the students' view on the influence of school and home environment on their performance in Mathematics.

Table 4: t-Test On Influence Of Environment On Students 'Performance In Mathematics

tTt Type	N	Mean	S.D	df	t-cal	t-critical
Decision						
SSS School Environment	1000	3.66	0.198	998	0.030	1.96
Sign						
Home Environment	1000	2.32	0.931			

$t_{998} = 0.030, p < 0.05$

From table 4 above, the t-calculated of 0.030 is less than the t-critical of 1.96, therefore the hypothesis of there is no difference in the view of students on influence of school and home environment on their performance in mathematics is rejected. This findings show from the students' view that the school environment has greater influence on their performance in mathematics than the home environment. This indicates that the difference of 1.34 in the mean in favour of school environment is significant.

CONCLUSION

The result of this study was able to reveal that the environment has influence on students' performance in Mathematics. More specifically the school environment has greater influence on students' performance in Mathematics, than the home environment. Therefore, students' learning ability is highly connected to the Learning environment.

RECOMMENDATION

Based on the findings from this study ,the following recommendations were made

1. Schools should not be sited around the industrial and market areas. This is to avoid noise and pollution.
2. The school environment needs to be kept good with good ventilation, vegetation and all the necessary social amenities to be present in the school.
3. The student's home environment to be conducive for learning by establishing home library and the parent to always make sure that they motivate their children/wards to do their homework and assist them where necessary.

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