

# THE INFLUENCE OF THE SCHOOL LOCATION/ ENVIRONMENT ON STUDENTS ACHIEVEMENT IN GEOGRAPHY

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## **Abstract**

*The research work is based on the effect of using scale models for teaching and the influence of location/environment on students' performance in secondary school geography in Ogba Egbema Ndoni Local Government Area of Rivers State. A quasi-experimental design was used with a population of 683 SS Students and the sample of 217 students selected through purposive sampling process. Two research questions and one null hypothesis were formulated to guide the studies. Mean was used to find answers to the research questions while student T-test was used to test the hypothesis formulated for the studies. The instrument used to collect data was validated by experts in educational measurement and Evaluation. The reliability of the instrument*

*was determined by Kuder Richardson 20 (K-20) with a coefficient of 0.8230. The result of the study shows that there was no significant difference between the mean achievement scores of students taught with models in geography, this generally proved that students taught with models performed better than those taught without models the location of the school notwithstanding.*

### **Background of the Study**

The school location environment is more than just a place where academic learning occurs. Various definitions have been given on the school location/environment. The school location/environment is the totality of the activities and conditions, which a group of people within the same geographical location are subjected to (Ezewu, 1990). It includes all the factors existing in a school which may be physical, administrative or psychological that enable both staff and students achieve their various purposes and those of the people establishing the school (Dubey, Dubey & Ndogi, 1985). Idu, (2003) went further beyond these definitions to include the influence of the host community as the school location/environment.

### **The Locality of the School**

Site and classroom setting are indispensable environments that determine the achievement of the students in a particular school. Networks and strong support can foster student's interest and performance in schools and its activities. Environment in whatever nature it may take can make or mar the achievement of students in a school and in a subject or career in particular. Free movement within and outside the classroom and a clean environment facilitate learning (Ezewu, 1990; Gandara, 2002; Centre for the Study of Higher Education (CSHE), 2003). Every department of the school environment should be networked with road kept clean. A clean environment is for healthy minds; and a healthy mind is ready for learning (Ezewu, 1990).

The trend and degree of availability of facilities within a given environment determine to a large extent the level of achievement, Interest and awareness of the student within the environment. In this contest, location/environment could either mean the classroom itself, the school in all its entirety and, or the locality where the school is sited. Schools all over the world are trying to diversify at a dramatic rate (Achievement Information (A.I.) 1995; Gandara, 2002). This dramatic diversification is as a result of the challenges thrown by the environment on the educational system. "Education is the bedrock of any country's development". The environment provides the machineries that are needed by the school for its development. This in turn reflects on the development level of the country. In a country where the school is the only avenue for social and economic mobility; especially in getting a job and where the

prerequisite facilities are also put in place, there will be high response from those longing to go to school and the vibrancy of that country.

The agility of a student is determined by the location of the school and the kind of students therein (Idu, 2003). In the urban areas, students are more vocal and talk openly about their problems because of their orientation. The influence of tribe, race or ethnic nationality is overruled in urban schools thus; there is free interaction amongst the students. But, the reverse is the case in rural schools. Even though there are incessant troublesome behavioural problems such as parents interference with school programmes observed in urban schools; absenteeism and other social vices are predominant in rural schools (A.I., 1995). There are other barbaric activities observed in rural schools. These might be as a result of untamed, unrefined behaviours in the rural areas that are infiltrating into the school system (Gandara, 2002; Chukwu, 2001). This inability to interact reflects on the indiscriminate choosing of subjects. There are students that choose subjects just for their sake without understanding what career these subjects will lead them to.

### **The Classroom Setting and Management**

The classroom setting and management also affect the achievement and interest of the students for a subject. A classroom where the seating arrangement is not organized and does not allow for free movement of both the students and staff affects learning. In this situation the teacher is not completely in-charge (Idu, 2003). Due to this fact, the classroom is always noisy and rowdy. Thus the teacher gets to the class and wastes his period talking if at all he follows his lecture timetable. The understanding of the students is not his concern. In this situation, the act of teaching and learning becomes boring. On the contrary, a classroom setting where the seats are well arranged allowing for free and ease of movement, the teacher manages to control every situation. Activities of students in this classroom are closely monitored and students are even afraid of doing anything odd since they know that the teacher can easily catch up with them. The classroom setting does not only affect the students, it also affects the teachers (Ezewu, 1990; Foster, 1998; Idu, 2003).

Teacher reputation is at stake both within and outside the classroom. The first group of persons that will project a teacher are the students. The classroom setting to a great extent determines the image of the teacher to be projected. A good school environment with adequate instructional materials such as model can help restore or build the reputation of the teacher.

### **Theoretical Framework**

The cognitive development orientation has its roots with the writings of Jean-Jacque Rousseau. Rousseau stressed that development unfolds in a gradual and systematic manner (Conway, 1997, Ngwoke & Eze, 2004). The theoretical framework adopted by this paper is based on two cognitive theories, Bounner's theory of 'INSTRUCTION' and Piaget's theory of 'FUNCTION AND STRUCTURE (SCHEMA)'. These cognitivists recommended that the teacher should teach the mastery of structure through teaching for general principles and strategies for solving classes of problems (Ngwoke, 1995; Rosenshine, 1986). Piaget's cognitive developmental theory is the concept of constructivism. For him, when events occur in the environment, children's perception of them is not an exact reflection of those events as they occurred. The new experience is constructed to suit an already existing structure of scheme. A drawing presented to different students could be interpreted differently after a class work (Agi, 2008). It is based on these theories that different explanations can be given about a particular site visited by different students.

It is the responsibility of the teacher to synchronize these ideas or understanding to produce an acceptable whole. As it has been pointed out that the effectiveness of geographical models on the learning process depends upon the ability of the student to discuss and explain their experiences and responses (Littky & Grabelle, 2005). These must be well thought out and executed logically with critical and creative thinking abilities. Learning through the aid of geographical scale model emphasizes on practical experience of the student. He is also to build on an already existing experience thereby widening his horizon of understanding.

### **Purpose of the Study**

The main purpose of this study was to examine the effect of scale model on the performance of SS students of geography in urban and rural areas in Ogba Egbema Ndoni Local Government Area of Rivers State. The purpose of this study also includes whether the use of scale models in teaching has any effect on students performance in SSCE geography. Specifically this study is designed to:

- (a) Ascertain the effectiveness of teaching techniques employed by the teachers in the teaching of Geography
- (b) Determine if there is any difference in the performance of students in the urban areas from those in the rural areas when taught with scale models.

### **Research Questions**

To guide the investigation, the following research questions were posed:

- 1 To what extent does the use of scale model as instructional materials affect student's achievement in geography?

2 To what extent does the mean scores of students taught with scale model in the urban areas differ from students taught with the same scale model in the rural areas in Geography class.

### **Hypotheses**

The following hypothesis was tested at 0.05 level of significance:

**H<sub>01</sub>:** There is no significant difference between urban students taught with scale models and rural students taught with the same scale models in geography.

### **Significance of the Study**

This would enable effective use of scale models for teaching and learning thereby enhancing the productivity of the teachers and students. The findings of the study will provide information for school administrators and curriculum planers thereby serving as inputs for further curriculum development and improvement. It will also facilitate the understanding of Geography, Environmental studies, Social studies and other related courses. It will also prompt policy makers to evaluate their policies on the production and supply of adequate teaching materials and methods. The State Ministry of Education will through the findings of this study formulate better policies that will enhance both classroom and field implementation of the subject through the services of trained, experienced and qualified teachers.

### **Scope of the Study**

The scope of this work covers all the secondary schools students in Rivers State.

### **Design of the Study**

The study used the quasi-experimental design. The type of quasi-experimental design used is the pretest – post test control group design. This design was used because it was not possible for the researcher to do a random sampling without disrupting the academic programme of the schools. The area of the study was Ogba/Egbema/Ndoni Local Government Area of Rivers State.

### **Population of the Study**

The population of the study is the entire senior secondary students that offer and study geography as a subject for senior secondary school certificate examination. This is 683 urban and rural students that are in geography classes from SS 1 to SS 3.

### **Sample/Sampling Technique**

A total of 217 urban and rural students were selected through purposive simple random sampling technique. Therefore, 109 urban and 108 rural students in Geography classes in the twenty government approved secondary schools in the Area were selected.

### **Method of Data Collection**

The researcher with the help of the class teachers, first subjected both groups to a pre-testing exercise with the Geography Achievement Test (G.A.T.). Then both groups were subjected to the treatment using the scale model based lesson plans; after which the post test was administered on both groups. The scores of the groups in the post-test were recorded and compared with the scores obtained by the both groups in pre-test.

Geography Achievement Test (GAT.) was face and content validated by two lecturers of Measurement and Evaluation in Federal College of Education (Technical), Omoku. The validation judges evaluated the face and content, the value and the appropriateness of the measuring instrument (McCall, 1980). The validators looked at the instrument in terms of their relevance, variety and general coverage of the content. The instrument is partitioned into five clusters and each cluster has the same number of questions to make up the total test items. The clusters were in the following: Identification of geographic features (Natural and Man-made), description of these features, causes, effects and how to prevent the occurrence of these negative features. The blue print specification grouped all the objectives into lower and higher order questions.

**Table 1 Table of specification (Test blue print) of a 50 items Geography Achievement Test (GAT).**

Area of specification in the GAT	Lower order questions	Higher order questions	Total
Identification of features: Natural and Man-made	6	4	10
Description of features	6	4	10
Causes of the feature on the environment	4	6	10
The effect of the features on the environment	7	3	10
How to prevent the occurrence of the features	6	4	10
<b>Total</b>	<b>29</b>	<b>21</b>	<b>50</b>

### **Reliability of Instrument**

The reliability co-efficient of the instrument was determined by using the scorer reliability approach. The researcher and class teachers scored copies of the scripts of the 35 students used in the trial test. The students responses were determined by awarding one point to a correct answer and zero to a wrong answer. The students responses to the GAT were used to establish the reliability index of the instrument. The Kuder-Richardson formula (K-R20) was used to compute the reliability of the instrument with reliability co-efficient of 0.8230.

### **Method of Data Analysis**

The research questions were answered using mean scores while the t-test was used to test the null hypothesis at 0.05 level of significance. t-test was used for this study because the research intended to analyze the difference between the experimental group and the control group on the independent variable; based on a pre-test – post-test design and there was no sampling since the classes were already organized into groups (Ali, 1996). The X and SD of post test were used to calculate.

$$t = \frac{X_1 - X_2}{\sqrt{\frac{SD_1^2}{N_1} + \frac{SD_2^2}{N_2}}}$$

$X_1$  is the mean of urban students  $X_2$  is the mean of rural students while  $SD_1^2$  &  $SD_2^2$  are the standard deviation of urban and rural students respectively.

### **Research Question 1**

To what extent does the mean score of the experimental group differ from that of the control group in the Geography Achievement Test (GAT)?

This question was answered by computing the mean score of students taught with the scale models and those taught without the scale models.

**Table 2**

**Mean and Standard Deviation of the Pre-test and Post-test Scores of the Urban and Rural Students in the GAT**

Group	N	Pretest Scores		Posttest Scores	
		X	SD	X	SD
Urban students	109	20.37	1.86	41.03	3.32
Rural students	108	19.58	1.28	40.00	3.14

**Effect of Scale Models on School Location/Environment**

**Table 3**

Independent t- test analysis of the experimental and control groups in the GAT.

**Table 3 shows the t- test Result of Students who were Taught with the Models And Those Taught Without The Scale Models.**

	N	Mean	SD	df	Cal-value	t-value	p	Decision
Urban students taught with Scale models	109	41.03	3.32	215	2.352	1.98	0.05	accepted
Rural students taught with scale models	108	40.00	3.14					

**Discussion**

Dates in table 3 indicates that the mean and SD of the scores of urban students taught with scale models and rural students taught with scale models is 41.03 and 3.32 and 40.00 and 3.14 respectively. This means that there is no difference in the standard deviation of males and females and that the difference in the mean is negligible. The t- test result also shows a calculated value (cal-value) of (2.352) with df (215) with table-value (t-value) of 1.98 significant at 2- tailed. Since the table-value of (1.98) is less than calculated-value of 2.352. The null hypothesis is not rejected. Ali (1996) stated that if the calculated value is greater than the table value, then the null hypothesis is not rejected. There is therefore no significant difference between urban students and rural students taught with the same scale model.

The result agrees with the findings of other researchers like Obioma, (1984); Chegbu, (1986); Campbell and Campbell, (1999); and Obodoegbulam, (2005). They observed that there were no significant difference between the mean scores achievement of urban school students and rural school students taught with models in the science



subjects. This result also revealed that generally, both urban and rural school students taught with the models performed better than urban and rural school students taught without the models. This showed that the use of models in teaching have superior knowledge impartment potentials over the non use of models or traditional methods.

The finding of this study does not agree with those of Nnaobi, (2003). Her results showed significant difference between urban and rural school students taught with models. Many researchers have noted increased understanding or knowledge gained as a result of the use of models for instructions on both urban and rural school students (Obioma, 1984; Chegbu, 1986; Campbell and Campbell, 1999 and Obodoegbulam, 2005). However, literature did not contain information on the use of models on urban and rural school students in teaching concepts in Geography. The findings of this study suggested that students learning and understanding were enhanced by the use of models in teaching, the location of the school notwithstanding.

### **Conclusion**

The following conclusions were made based on the results of the analyzed data:

- 1) There was a significant difference in the mean post-test achievement scores of students taught with scale models. Achievement was greatly improved by the use of scale models for instruction in geography.
- 2) The location of the school notwithstanding, students' achievement will be the same if given the same learning conditions.
- 3) Teachers that used the models for instruction improved tremendously in their achievement.

### **Recommendations**

Based on the findings of this study and their implications, the following recommendations are made:

- Geography textbooks, authors and publishers should emphasize on the use of scale model instructions in their textbooks. This will avail both teachers and students alike, the opportunity of learning how to use scale models to learn.
- State and Federal Government should establish, equip and fund Educational Resource Centres in every local government area and state. This will enable teachers to go to these centres and borrow models that are educationally relevant and suitable to their topics.
- State, Federal Ministries of Education and States Secondary Education Management Boards should organize seminars and workshops to inform teachers on how to use models.
- State and Federal Government should encourage and sponsor in-service training for Geography teachers to learn how to produce and use scale models.

**Reference**

- Achieved Information (A.I) (1995). *Creating Networks of Support for Students. Raising the Educational Achievement of Secondary Schools. Vol. 1, Summary of Promising Practices 1995.* Retrieved on 8/19/2005 from <http://www.ed.gov/pubs/raising/vol 1/pt5.html>.
- Agbaegbu, C.N. (1999). *Effect of Peer and Self Assessment Techniques on Students Academic Achievement and Interest in Geography.* Unpublished Ph.D. Thesis; Nsukka; University of Nigeria Library.
- Agi, C. (2008). *Effect of some Geographical Scale Models for Instruction on the Achievement of Senior Secondary Students on Environmental Concepts in Geography.* Unpublished M.Ed. Thesis; Nsukka; University of Nigeria Library.
- Ali, A. (1996). *Fundamentals of Research in Education.* Awka Enugu: Meks Publishers.
- Campbell, L. & Campbell, B. (1999). *Multiple Intelligences and Students Achievement Success Series for Six Schools.* Retrieved 8/19/2005 from <http://www.ascd.org/publications/books/1999cambell/intro.html>.
- Centre for the Study of Higher Education (CSHE), (2003). *Assessing Group Work: Assessing Students Learning – Five Practical Guides.* Australian Universities Teaching Committee (AUTC). Retrieved on 8/19/2000 from <http://www.cshe.unimelb.edu.au/assessinglearning/03/group.html>.
- Chukwu, I. O. (2001). *Effect of Selected Local Games on Primary Schools Pupils Achievement and Interest in Subtraction Operation.* Unpublished M.Ed. Thesis; Nsukka: University of Nigeria Library.
- Conway, J (1997). *Educational Technology: Educational Technology; Effects on Model of Instructions.* Retrieved on 8/19/2005 from <http://copland.udel.edu/~jconway/EDST666.htm>.
- Dubey, D.L; Dubey, O.R.C. & Ndogi, J.O. (1985). *Teaching the Primary School: A Course for Active Learning.* Lagos: Longman (Nig) Ltd.
- Ezewu, E. (1990). *Sociology of Education.* Lagos: Longman (Nig) Ltd.

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- Foster, V. (1998). Gender, Schooling Achievement and Post-School Pathways: Beyond Statistics and Populist Discourse. A Paper Presented at the Australian Association for Research in Education, Adelaide, Dec 1998. Retrieved 8/19/2005 from <http://www.aere.edu.au/98pap/fos98289.htm>
- Gandara, P. (2002). Peer Group Influences and Academic Aspiration Across Cultural/Ethnic Groups of High School Students. Centre for Research on Education, Diversity & Excel (CREDE). Retrieved on 8/19/2005 from <http://www.crede.org/research/sfc/intro3-5.html>.
- Littky, D. & Grabelle, S. (2005). The Big Picture: Education is Everyone's Business. New York: Berkeley Publishing Groups. Retrieved 7/7/2005 from <http://www.asced.org/portal/site/tempate.chapter/menuctum.b71d10192FC208cde b3FFb62108ao.....>
- McCall, R.B. (1980) *Fundamental Statistics for Psychology (3<sup>rd</sup> ed)*. New York: Harcourt Brace Jovanovich Inc.
- Ngwoke, U.D. & Eze, U.N. (2004). *Developmental Psychology and Education: Theories, Issues and Trends*. Enugu: Magnet Business Enterprises.
- Nnaobi, A.F. (2003), *Misconceptions in Stoichiometry Among Senior Secondary Students*. Unpublished M.Ed Thesis. Nsukka University of Nigeria Library.
- Obioma, G.O. (1984). Mathematics Performance, Competence and Interest in Primary Schools. In G.O. Obioma (Ed) *Readings in Curriculum for Mathematics and Secondary Education Curriculum Organization of Nigeria*. Monograph; Series 4.
- Obodoegbulem, A.O. (2005). The Role of Parent in providing Information to their Children. A Paper Presented at the Fourth Annual Conference of the Counseling Unit; Department of Educational Foundation U.N.N held between 27<sup>th</sup> – 30<sup>th</sup> Sept. 2005 Unpublished.
- Rosenshine, B. (1986). Synthesis of Research on Explicit Teaching. *Educational Leadership Journal*. April Issue.
- Williams, C. (2006). Formative Evaluation as an Educational Product: Refining Mechanism. A Paper Presented at the 8<sup>th</sup> Annual National Conference of National Association for the Advancement of Knowledge held between 13<sup>th</sup> – 17<sup>th</sup> March 2006 at College of Education Ekiadolor Benin, Edo State. Unpublished.