THE INFLUENCE OF SCHOOL LOCATION ON PRIMARY PUPILS' ATTITUDE TOWARDS SCIENCE LEARNING

OLU-AJAYI Funmilayo Elizabeth,
Department of Science Education, Faculty of Education,
Ekiti State University, Ado-Ekiti.

Abstract

School location can be described as the geographical area of a school and has been observed as one of the factors that influence the distribution of educational resources by stakeholders. The study aimed at investigating the influence of school location on primary school pupils' attitude towards science learning. Descriptive survey method of research was employed for the study and participants in the study were 200 primary five pupils selected through stratified random sampling technique from urban and rural located schools. The instrument used was a questionnaire titled 'School Location and Attitude towards Science' (SLAS) The instrument was validated by experts in Science Education and Education Management. Reliability of instrument was estimated using test retest method and a reliability coefficient value of 0.76 was obtained. Four hypotheses formulated were tested at 0.05 level of significance using t-test and Pearson's Product Moment correlation statistics. The results showed that the geographical location of schools had influence on the pupils' attitude towards the learning of science. It was recommended that science competitions should be encouraged among primary schools.

Keywords: Location, Primary school, Attitude, Science, Pupils

Introduction

A school can be defined as a place of formal education, where a given curriculum is being implemented. Dada in Ofodu (2011) describes the school as a place where learning takes place. The basic role of a school in any Community is changing the general orientation of a child by developing the areas of cognitive, affective and psychomotor domains. It enables a child to develop reasoning and learning skills. Primary school, also referred to as basic school can be described as the onset of formal education of a child, and it involves children of between 5-12 years of age (Esme, 2016). The fundamentals of every subject is being introduced to children and taught in the Primary school. The way teacher present lessons in Primary schools go a long way to lay foundations of various subject and create children attitude towards such subject.

School location can be describe as the geographical area of a school and has been observed as one of the factors that influence the distribution of educational resources by stakeholders. Nigeria has been described by Balogun in Ofodu (2011) when commenting on the improvisation of science teaching equipment in line with location, referred to Nigeria as a Country with overweighing poverty characterized with wide disparity in the distribution of resources and social amenities by the Government. The population has polarized into two; the favorably affected and unfavorably affected. These two groups have been forced on economic reasons and levels of education to organize themselves into two different sub geographical locations which determine what amenities and facilities are made available to each group. According to Mbipom (2000), schools are either situated in one geographical location or the other. These geographical locations are either termed urban, which according to Alokan (2010) is characterized by modern facilities, leisure, cinema, easy transportation, cultural heterogeneity, and cosmopolitan population or rural, where all these are lacking. In rural schools the population is relatively small and the students could identify one another by name. Urban dwellers live individualistic life and only relate with people they

feel like relating with, without any form of permanency. Ogili (2009) posited in his study that the incomes per capital among rural people are low and there is general poverty. About 70% of the rural populations are engaged in farming at subsistence level while the urban populations are mostly civil servants, traders and artisans. This educationally implies that in the rural settlement or location there is poor accessibility to the modern educational facilities and this serves as a hindrance to the motivation of a rural child to learning.

Urban locations are those environments which have high population density containing a high variety, beautiful and common place views like Hotels, Recreational centers, Markets, Banks and good road network, while the rural environment is being characterized by low population density containing a low variety and isolated place. The social environments of an urban Center attract various personnel. Urbanization comes with diverse enlightenment via social media, news media, print media, ICT, rallies, exhibitions, campaign, also social amenities characterizing urban Center can promote pupil's general exposure thus enhancing pupils' attitude towards science learning. Teachers are implementers of science curriculum. Many science teachers prefer working in urban Centers. Government gives preference to urban schools in science equipment distribution. A better atmosphere for science learning is thus presented in urban location, though overcrowding in class is a common problem of teaching science here.

Teacher's role in implementing the science education curriculum is vital. School location affects the settlement of teachers in schools. Most qualified teachers prefer to settle in urban rather than the rural areas. Teachers dodge postings to rural areas because the living conditions are not sophisticated, the social life in these areas is virtually restricted as a result of inadequate amenities; facilities are deficient, playground are without equipment, Libraries are without books while Laboratories are mostly glorified ones having inadequate and improvised equipment. Mamman, Chadi and Jirgi, (2015) opined that if teachers have a comfortable living condition of working, they will be more effective in the teaching-learning process. A critical analysis of location factors, surmised that disseminating science knowledge in rural areas is normally fraught with inadequate qualified teachers, villagers hesitation in sending their children to schools because they are dependent on them for labour-help at farm, parents fright to entrust their daughters to male teachers, lack of roads or satisfactory means of communication makes it difficult to get books and teaching materials to the school which place difficulties in the way of organizing school transport among others.

Science learning is not new in the Nigeria school system. It is a footstool to technological development of the Society. The need to put up every effort and keep hands on deck to make the task easier and effective cannot be overemphasized. For a Society devoid of scientist cannot develop. Science learning in a child begins in Primary school where pupils are introduced to various subjects. The teacher and learning resources available in the environment could stir up pupils' interest in science subjects which could affect their attitude. Attitude towards science in students have been discussed within different research contexts. Among the purposes of science education is to develop a positive attitude towards science regardless of individual differences (Azizoglu and Cetin, 2009) Attitude was defined by Osborne, (2003) as 'feelings, belief and values held about the enterprise of school science, school science and the impact of the science on the Society. Klopfer, as stated in Esme (2016) proposed five dimensions regarding 'attitude towards science' as the manifestation of favorable attitudes to science and scientists; acceptance of scientific inquiry as a way of thought; adaptation of scientific attitudes; enjoyment of science and development of interest in pursuing a Career in science. Attitude can be affected by personal opinion, and these opinions can be formed through personal life experiences and education.

Studies concerning the science learning environment Osborne, 2003; Ogunmade, 2006 and Dinah, 2013 revealed a relationship between this environment and students' attitude to science. Deficiencies of learning environment may results to low self esteem of students which can develop a poor attitude toward learning (US Department of Education, 2003). Concerns over the influence of attitude on students' science learning have been deliberated upon in recent time. Owino, Ahmad and Yungungu (2014) attached the

problem with inadequate supply of teaching and learning resources such as chemicals, charts, apparatus, models, local specimens, Laboratories, textbooks, and Libraries led to poor performance in Biology. Dinah (2013) concluded that, availability of text books, Laboratory apparatus and other learning resources contribute significantly to the learning of Biology. He added that, students with positive attitude towards the subject register better performance than those who had a negative attitude. Many schools lack the essential resources for imparting the knowledge of science concepts to students making many students learn little science, learning tends to be rote and many students find science not interesting and boring (Ogunmade, 2006)

Classroom plays a vital role in the education of the child. According to Nwachukwu (1994), the physical setting for learning affects the learner. The setting must be attractive enough to make students wish to spend long hours there. The present scene in most primary schools does not meet these requirements. The typical village classroom is part of an unattractive building. The roof may still be in place or may have been blown off by wind. If the later is the case, students are forced to study without being protected from the effects of the weather. This is unlike in the urban areas where unattractive classroom buildings are easily noticeable and attended to by Government and stakeholders. There has been disparity in researches on school location and effects on students, Alokan (2010) in her study reported that location do not affect the negative relationship between student problems and academic performance. In another development, Considine and Zappala (2002) studied students in Australia and found out that geographical location do not significantly predict outcomes in school performance. There have been paucity of researches on Primary school locations and students attitude to learning. This has prompted this study on Primary school location and pupils attitude towards science learning.

Problem of the Study

Location of school (rural / urban) is noted to have effect on pupils' exposure to learning in diverse ways, hence attitude towards science learning. It is observed that adequate social infrastructures which may entice pupils to studying science are inadequate in rural locations. Also there is noticeable discrepancy in the distribution of learning resources to Primary schools with regards to location.

Purpose of the Study

The study aimed at investigating the influence of school location on Primary school pupils attitude towards science learning. The study focus on finding out the difference in pupils' attitude towards science learning in rural and urban locations of Ido-Osi Local Government Area of Ekiti State, Nigeria.

Hypotheses

The following hypotheses were raised and tested in the study

1. There is no significant effect of school location on pupil's attitude towards science learning.

2. There is no significant relationship between availability of basic science instructional materials and pupil's attitude towards science learning.

3. There is no significant relationship between urban location and Primary pupils attitude towards science learning

4. There is no significant relationship between rural location on Primary pupils attitude towards science learning.

5. There is no significant difference in the influence of teachers in rural and urban areas on primary pupil's attitude towards science learning.

Methodology

The study was descriptive in design. The population consists of all primary five school pupils in public Primary schools of Ido-Osi Local Government Area of Ekiti state Nigeria. The participants in the study were 200 primary five pupils selected through stratified random sampling technique from urban and rural located schools.

The instrument was a questionnaire titled 'School Location and Attitude towards Science' (SLAS) containing 35 items. It was made of up two sections A and B. Section A was 'fill up the gap' items which sought information on pupils' bio-data, while B was a four likert type scale items based on pupils' attitude to science, school

location, available facilities and instructional materials to be tick according to options; strongly agree (SA) agree (A) disagree (D) strongly disagree (SD)' which sought information on pupil's school location, pupil's attitude towards science and availability of instructional materials for science learning. The instrument was validated by experts in Science Education and Education Management. Reliability of instrument was done through test retest method and a reliability coefficient of 0.76 was obtained. The value was adjudged high enough for the instrument to be reliable. Pearsons' Product Moment Correlation statistics was used to test the hypotheses.

Results

Hypotheses testing

H_{01}: There is no significant influence of school location on Primary pupil's attitude towards science learning.

Table 1: Correlation of School Location and Student's Attitude Towards Science Learning.

Variable	N	Mean	SD	Df	r-calc	r-tab	Remarks
School location	200	50.00	48.500				
attitude towards science	200	82.75	12.487	199	2.916	1.968	Significant

The result above reveals that the r-significant calculated 2.961 is greater than r-significant tabulated 1.968 so the null hypothesis was rejected at 0.05 level of significance. This indicates that there is significant effect of school location on Primary pupil's attitude towards science learning.

H_{02}: There is no significant relationship between availability of basic science instructional materials and pupil's attitude towards science learning.

Table 2: Correlation of Science Instructional Materials and Pupil's Attitude towards Science Learning.

Variable	N	Mean	SD	Df	r-calc	r-tab	Remarks
Science instructional materials	200	50.00	26.736				
Pupils attitude toward science learning	200	82.75	12.487	199	0.323	0.195	Significant

The result reveals that the r- calculated 0.323 is greater than r-table value 0.195 so the null hypothesis was rejected at 0.05 level of significance, meaning there is significant relationship between availability of basic science instructional materials and pupil's attitude towards science learning.

Ho_3: There is no significant relationship between urban location and Primary pupils attitude towards science learning.

Table 3: Correlation of urban location and pupils attitude towards science learning.

Variable	N	Mean	SD	df	r-calc	r-tab	Remarks
Urban location	200	8.25	16.500				
Pupils' attitude toward science	200	82.75	12.487	198	0.527	0.195	Significant

The result reveals that the r- calculated (0.527) is greater than the r-table (0.195) thus the null hypothesis was rejected at 0.05 level of significance. This indicates a significant relationship between urban location and Primary school pupils' attitude towards science learning.

Ho_4: There is no significant relationship between rural location and Primary pupils attitude towards science learning.

Table 4: Correlation of rural location and primary pupils' attitude towards science learning

Variable	N	Mean	SD	df	r-calc	r-tab	Remarks
Rural location	200	41.75	74.684				
Pupils' attitude to science	200	82.75	12.487	198	0.473	0.195	Significant

The result above reveals that the r-calculated, 0.473 is greater than r-table value 0.195. The null hypothesis was rejected at 0.05 level of significance. It thus indicates a significant relationship between rural location and Primary school pupils' attitude towards science learning.

$H_{05:}$ There is no significant influence of teachers' availability on primary pupil's attitude towards science learning.

Table 5: Correlation of teachers' availability and primary pupils' attitude towards science learning

Variable	N	Mean	SD	df	r-calc	r-tab	Remarks
Teacher's availability	200	67.10	41.775	199	0.556	0.195	significant
Primary pupils attitude towards science learning	200	82.75	12.487				

The results above reveals that the r-t calculated (0.556) is greater than the r- table of critical value (0.195) so the hypothesis was rejected at 0.05 level of significance. Therefore there is a significant influence of teachers' availability on primary pupil's attitude towards science learning.

Discussion

The findings show that the geographical location of schools had a significant influence on pupils' attitude towards the learning of science. Rural / urban dichotomy in terms of pupils attitude as highlighted in the result presentation can be attributed to various causes such as, uneven distribution of learning resources by Government which supports Ofodu (2011) who confirmed a wide disparity in the distribution of resources and social amenities by the Government. Also a significant relationship between availability of basic science instructional materials and pupil's attitude towards science learning was recorded. Primary teachers cannot perform science practical lessons in abstract; the use of equipment is subject to its availability in schools.

Also recorded was a significant influence of teacher's availability on primary pupil's attitude towards science learning. Of note is the problem of teachers refusing postings or not willing to perform well in isolated villages. This is in agreement with the study of Ogili (2009) who believed that rural located schools are placed at a disadvantage compares to their urban counterparts, reason being that rural location is characterized by a lesser social motivation for both teachers and primary school pupils.

A significant relationship between urban location and Primary school pupils' attitude towards science learning and a corresponding significant relationship between rural location and Primary school pupils' attitude towards science learning was recorded. However, a significant difference in the influence of teachers in rural and urban areas on primary pupil's attitude towards science learning was recorded. The finding in this study reveals apparent influence of school location on the attitude of primary school pupils. The findings can be linked with that of Owoeye and Yara (2011) who believed that students in urban locations have better advantage by learning in an urban environment, which apparently enriches their academic knowledge, despite the disadvantage of having to learn in large classes. A significant influence of rural school location on primary pupils attitude towards science learning was recorded. Generally, rural school locations are deficit in social amenities, teachers are compelled to stay there. Science equipment are mostly improvised and pupils are not socially exposed.

Conclusion

It was concluded from the study that primary school pupils' attitudes towards science learning can be influenced by their school location. What a student hears, sees and come in contact with

during schooling can influence his/her attitude towards learning science subject.

It was discovered that school location often affects distribution of science equipment among schools and that schools location may affect teachers availability in schools will influence the pupils attitude to science learning. Many teachers prefer working in urban schools and this can influence pupils attitude towards science learning.

Recommendations

The following are thus recommended

1. Government should be just on the distribution of science equipment and learning facilities among rural and urban schools

2. There should be fairness in the distribution and posting of teachers' to school locations.

3. Teachers should willingly accept their postings as part of their obligation to their profession

4. Interaction between rural and urban schools should be encouraged via science quiz exhibitions participation and competition

5. Government and stakeholders should avoid being partial when attending to primary schools issues.

References

Alokan, F.B. (2010). Influence of Sex and Location on Relationship between student problems and Academic Performance. *The Social Sciences (TSS)*, 5(4), 340 – 345

Azizoglu, N., & Cetin, G. (2009). The effect of learning style on middle schools students' motivation and attitudes towards science, and the relationships among these variables. Kastamonu Education Journal, 17(1), 171-182.

Considine, G. and Zappala, G. (2002). The influence of Social Economic disadvantage in the academic performance of school students in Australia. *Journal Sociology*, 38, 127 - 148.

Dinah, C.S. (2013). Factors which influence academic performance in Biology in Kenya: A perspective for global competitiveness. International Journal of Current Research 5(12)4296-4300

Egbona, E. (2002). Important of Audiovisual Instruction in the Association Diploma in Education in Nigeria University *West African Journal.*

Esme H. (2016) Elementary School Students' Attitude towards Science and Related Variables. International Journal of Environmental and Science Education 11(2)

Mamman, J. Chadi A.M and Jirgi, J. (2015). Perception of Business Studies Teachers on the Influence of Large Class Size in Public Secondary Schools in Yobe State, Nigeria. *Journal of Education and practice.* Vol.6 (11): 116-120.

Mbipom, G. (2000). *Educational Administration and planning.* Calabar: University of
Calabar Press

NCES (2003). The Condition of Education. US Department of Education, Institute of Education Sciences NCES 2003-067

Nwachukwu, V.C. (1994). Theories of learning in G. C. Nwachukwu (Ed), *Educational psychology, theory and practice.* Owerri: Totam Publishers.

Ofodu, G.O. (2011). Relative effect of school location, class level and gender on reading needs of secondary schools students in Nigeria. An International Multidisciplinary Journal, Ethiopia 5(6) 36-42

Ogili, E. (2009). *Community development for new Africa.* Enugu: Adels Foundation Publishers

Ogunmade, T.O. (2005). The status and quality of secondary school teachers and learning in Lagos State , Nigeria. Doctoral Dissertation, Edith Cowan University, Joondalup, Western Australia. Retrieved from http: www research gate. net/publication/ 49282187- The status –and-quality-of-secondary school-science-teaching-and-learning-in-Lagos state-Nigeria

Osborne, J. (2003) Attitudes towards science: a review of the literature and its implications, International Journal of Science Education, 25(9), 1049-1079.

Owino, O. Ahmad O. & Yungungu, A. (2014). An investment of factors that influence performance in KSCE Biology in selected secondary schools in Nyakach District Kisumu country. Kenya Journal of Education and Human development 3 (2) 957-977

Owoeye, J.S. & Yara, P.O. (2011). School location and academic achievement of secondary schools in Ekiti State. *Nigeria Asian Social Science* (7) 5,170-175www.ccsenet.org/ass