

Relationship between Audio-visual Materials and Environmental Factors on Students Academic Performance in Senior Secondary Schools in Borno State: Implications for Counselling

Dr. S. Bello

Department of Education, University of Maiduguri.

Dr. Umar Goni,

Department of Education, University of Maiduguri,

Abstract

This is a survey study, designed to determine the relationship between audio-visual materials and environmental factors on students' academic performance in Senior Secondary Schools in Borno State: Implications for Counselling. The study set two research objectives, and tested two research hypotheses. The population of this study is 1,987 students from three purposively selected Secondary Schools in Maiduguri. The sample size for this study was 110. The instruments used in this study consisted of Effect of Audio-visual and Environmental Influence on Student Academic Performance Questionnaire (EAEIAPQ) with reliability indices of 0.62. Based on the obtained indices coefficients, the instrument is reliable for use in this study. The data collected from students were tested using Pearson 'r' because Pearson correlates the relationship between two variables. The results obtained in this study indicated that, that there was significant relationship between students' academic performance and instructional materials, therefore, the null hypothesis was rejected and there was significant relationship between students' academic performance and environmental factors. The null hypothesis was rejected. Recommendations were made to government, College Authorities and Counsellors since the relationship was good between the variables studied there is need for the school authorities to provide all the necessary instructional materials, government should also renovates the school building for better environment in all the Secondary School in Maiduguri Borno State.

Introduction

In many societies teachers are placed in the centre of educational process. All they do is to impact to the students certain ideas, skills, basic knowledge in the possible time given according to the principles of leaning, the main effort of the teacher is to help the learner and direct him in the way he or she will achieve that knowledge. The teacher uses materials for effective teaching. These materials assist both the teachers and the learner to acquire the prescribed knowledge, skills and ideas the students need enough instructional materials and qualified teachers to help them comprehend the teaching and learning, the resources of learning may have some impact on the students which may lead to un-improvement in the students' academic performance.

Quite often, teachers and researchers alike, use the terms Audio-visual aid and instructional materials interchangeably. Tairu (1987) for example categorized instructional materials used in teaching and learning into the following Audio, Visual, and Audio-visual materials:

1. Audio materials which include cassette, recorder, radio, television and gramophone.
2. Visual materials; are books, charts, motion pictures, posters, diagrams models and photographs.
3. Audio-visual materials; include film, television projectors, etc.

In highly awaked countries; some of the materials listed by Tairu (e.g. gramophone, motion pictures, film) as constituting instructional materials are no longer in use⁴ or are to say the least obsolete. However, in developing countries such as Nigeria, audio-visual materials such as films, overhead etc. Are still used in instructional (Oyeshika and Ashiru 2003).

Slavin (2000) argues that instructional or audio-visual materials such as text book, pictures diagram's, flashcards, posters television etc are materials or devices that help in the teaching learning process because they influence the senses of seeing and hearing, but its utilisation must depend on proper planning. This seem to confirm the view expressed by Onasanya & Adegbiya (2007) that a planned utilization of instructional materials help the students comprehend, retain and recall concepts, principals or theories and acquire professional skills.

It could therefore, be said that subjects in schools could be better taught and learnt if the teaching is accompanied with instructional materials. The teacher needs instructional materials to further help him cope effectively with the differences in students abilities as students come to school from different backgrounds. There may be students who understand the printed work on the board, while there are others who do not understand concepts by mere writing on the board. As a result this may necessitate the need for the materials such as chalk board and text books to help motivate and communicate to the students effectively otherwise there may be many different learners with different education backgrounds and May not achieved the required knowledge. Audio-

visual materials come in handy helping a teacher to cope with various abilities and different level in the class.

The need for instructional materials for effective teaching and learning has been established especially in other studies (WootingPong 2014, Asadi & Berimani 2015). But of particular interest in the study conducted by Castle (1984), in his study reported on audio-visual materials in which he expressed the need for teaching materials especially on the African child. He stated that, these instrument are especially important in Africa because, children need to see and share to see hand books and pictures which they can study in their leisure time even of more importance is the fact that today's African children have to begin learning a new language like English, if they are to go far in their education. In this case, visual materials become essential for understanding the real meaning of many of the new words they learn especially in the area of description of things.

Instructional materials provide the teacher with interest compelling spring board into a wide variety of learning activities. The materials have a role-play in stimulating and revolving the students. In most case a teacher's limitation will mainly be his own imagination, the more he can fine useful way of employing these materials for more meaningful and permit learning to take place the better.

Thouless (1985), stated that the teaching of any topic will be more effective, if the spoken or written materials are accompanied with visual materials either in the form of pictures, charts, diagram etc. His research has shown that even the use of pictorial illustration in a text books does not necessarily help in the acquisition of knowledge from the text than the practical use of those materials.

Idris (2015) investigated the effective of Audio-visual materials on the teaching and learning of some English Language Skills in some Secondary school of Katsina State. Using a sample of 200 students, the result of the experimental study, revealed that the use of Audio-visual materials in the teaching and learning of speaking skills was significantly better than the use of conventional method in which no audio-visual materials was used.

Obetta (1996) defined two components of environment, physical and social environment. Physical environment embraces those natural elements such as laws, principles and things that are not made by man. He also sees physical environment in man as those natural elements laying at contact layer between, the atmosphere and the land surface. Mans physical environment consist of all the elements of forces that exist due to a cause whose origin is not from man. However, man's social environment is made up of laws, regulations, ideas and things that are made up by men. Enen (2000), opined that, social environment of man consist of customs, skills, values and attitude which are expressed in the form of human laws and regulations, scientific invention and products.

Mersden (2005) Reported that safe and orderly classroom Environmental and school facilities were significantly related to students academic performance in schools environment issues such as parents insensitivity to their children educational plight as a result of broken marriage, political factors that affect educational policies, influence of peer on the Childs educational attainment to poor academic of chemistry students in the school. However, one of the most viable legacies left behind by the colonial masters is education. It is the only heritage bequeathed to us, which is well embraced because of its usefulness in shaping the society and building of an individual. But over the years many children were denied the opportunity of quality education not only because of their poor economic background but also due to the circumstance beyond their control, which is environment.

Glassman (1994), Asserted that a comfortable learning environment among other treatments help to contributes to students academic performance. The early idea of teaching in the past centuries was to gather a group of children under the command of a teacher who instructs and drill them in knowledge that was considered by adults as being important for life. Our educational system in those days was largely teachers centred. Now in the 21st century of technological advancement, the aim of our educational system has changed and it has changed due the environmental influence from being teacher centred to child centred. The system requires the provision of suitable educational environment and activities involving appropriate aids which should change its character in accordance with the age and ability of the students as they progress in their academic performance.

Learning environment refers to the learner's physical and social surrounding which affect their academics. Physical surrounding refers to the geographical surroundings which include a host of structures such as the school building furniture's, equipment's instructional materials. All these have influence on the extent to which the students can perform in the class (National Teachers Institute 1990).

Karemera (2003), in her studies found that students performance is significantly correlated with students satisfaction with academic environment and the facilities there in such as library, computer labs etc. With regards to background variables, he found a positive effect of high school performance and school environment. She also found a significant startistical evidence between family income level as a measure of background home environment and academic performance of students.

Inappropriate use of instructional materials and lack of or inadequate of instructional materials as well as lack of qualified teachers to improvised and handle instructional materials in senior secondary schools in Borno State is the major concern to all stakeholders in Education.

Objectives of the study

This Study Set the Following Objectives:-

1. To find out whether the use of instructional materials enhances academic performance of students in senior secondary schools in Borno State.
2. To find out whether the environmental factors affect students academic performance in senior secondary schools in Borno State.

Research hypotheses

The following research hypotheses were tested in the study:

- Ho₁: There is no significant relationship between instructional material and students academic performance in senior secondary schools in Borno State.
- Ho₂: There is no significant relationship between the environmental factors and students academic performance in senior secondary schools in Borno State.

Methodology

The research design for this study is correlation design. Correlation design is a research design widely used to measure relationships between two or more variables Tilley (1994); Mallimand Birch(1997) and Cohenand Morrison (2000) report that correlation allows for the study of behaviours in realistic settings and it is suitable in predictive studies. Correlations are related not only to the correlation of the independent with dependent variable but also to the inter correlations between the independent variable. The population of this study is 1,987 students from three selected senior secondary school in Maiduguri. Government College Maiduguri, Government Girls College Maiduguri and Government Girls Secondary school Yerwa

Table showing population and sampled schools and students

Schools	School A	School B	School C
Total population of students in the schools.	784	650	553
Total sampled students.	50	30	30

The following stages were followed to draw the sample for this study. Stage one, purposive sampling technique was used to select three (3) Senior Secondary Schools in Maiduguri, purposive sampling technique was considered appropriate for this study because Bamidele, Seweje and Alonge (2002) said that in purposive sampling, the researcher can carefully and consciously choose the elements to be included in the sample so that the sample can be developed to suit the researcher's needs. The assumption is that, with sound judgement based on expertise, an appropriate element can be selected which is typical or representative of the population. Stage two, the Coolican (2004) principles of determining sample size for research activities was used to determine the sample size, Coolican (2004) opines that for qualitative data, a precise sample number can be calculated according to the level of accuracy and the level that the researcher requires in his/her work. Devaw (1996) explain that for a 5% sample error, the sample size for this study is 110

The main research tools employed for the collection of data for these research was questionnaires. The questionnaire was developed by the researchers. The instrument effect of audio-visual and environmental influence on student academic performance questionnaire (EAEIAPQ) was subjected to test re-test using Spearman Correlation Coefficient. The following procedure was followed: the instrument was administered to the respondents in the first week of the exercise which reliability index of 0.62 and the same instrument was again administered to the same group after four weeks interval between the administrations. The results of the testre-test revealed a reliability index of 0.62 which indicates that the instrument was reliable and was adjudged to be suitable for the study. The data collected from students were tested using Pearson 'r' because Pearson correlates the relationship between two variables. Pearson's Product Moment Correlation Coefficient The correlation coefficient range from + 1 through 0 to - 1. The two important aspects of the correlation coefficient are its numerical size and its value. The larger the number, the stronger the relationship between the two variables. It should be noted that although the correlation method points out a relationship between two variables, it does not specify the cause of the relationship (Fox, 1969&Kerlinger, 1973).

Results

- Ho₁: There is no significant relationship between instructional material and students academic performance in senior secondary schools in Borno State.

Table 4.2: Mean Scores, Standard Deviations and ‘r’ value of Instructional Materials and Academic Performance

Variable	N	\bar{x}	SD	Df	Cal. R	p- value	Decision
Instructional Materials	110	52.661	22.824	108	0.615	0.053	*S
Academic Performance		54.667	26.957				(H ₀₁ rejected)

Table 4.1 describes the relationship between instructional materials and students academic performance from the analysis, instructional materials was subjected to academic performance of the students, from which the correlation coefficient of $r = 0.615$ and a P-value, $P < 0.053$ were obtained. This shows that there is a strong correlation between students academic performance and instructional materials has a significant effect on students academic performance therefore, we can conclude that there was a significant relationship between students academic performance and instructional materials. Hence the null hypothesis was rejected.

H₀₂: There is no significant relationship between the environmental factors and students academic performance in senior secondary schools in Borno State.

Table 3: Mean Scores, Standard Deviations and ‘r’ value of Environmental Factors and Academic Performance

Variable	N	\bar{x}	SD	Df	Cal. R	p- value	Decision
Environmental Factors	110	53.33	20.648	108	0.640	0.054	*S
Academic Performance		54.667	26.957				(H ₀₂ rejected)

Table 3 Describes the relationship between environmental factors and students academic performance from the analysis, environmental factors was subjected to students academic performance, from which the correlation coefficient of $r = 0.640$ and a P-value, $P < 0.054$ were obtained. This shows that there is a strong correlation between students academic performance and environmental factors. This implies that environmental factors has a significant effect on students academic performance therefore, we can conclude that there was a significant relationship between students academic performance and environmental factors. The null hypothesis was rejected.

Discussion

The result obtained from the analysis indicated that there is a strong correlation between students academic performance and environmental factors. This implies that environmental factors has a significant effect on students academic performance therefore, we can conclude that there is a significant relationship between students academic performance and environmental factors. This study agrees with the study conducted by Idris (2015) who investigated the effective of Audio-visual materials on the teaching and learning of some English Language Skills in some Secondary school of Katsina State. Using a sample of 200 students, the result of the experimental study, revealed that the use of Audio-visual materials in the teaching and learning of speaking skills was significantly better than the use of conventional method in which no audio-visual materials was used.

Results obtained from hypothesis two revealed that environmental factors has a significant effect on students academic performance, its further confirm the study conducted by Karemera (2003), in her studies found that students performance is significantly correlated with satisfaction with academic environment and the facilities of library, computer labs and environment in which the learning took place. With regards to background variables, she found a positive effect of high school performance and school achievement, he found to statistical evidence of significant association between family income level and academic performance of the students.

Recommendations

The following recommendations were made to stakeholders of education

1. Instructional materials should be provided.
2. The schools should be located in a saving environment and building should be renovated.
3. The schools environment should be well space and qualified to teachers should be employed.
4. The laboratories should be well equipped with modern apparatus.
5. The schools authority should co-ordinate, supervise and monitor constantly the use of instructional materials during lessons.

Implications for Counselling

1. School Counsellors should assist the management, teachers and students in sustaining and maintaining the good relationship revealed by the study, to ensure adequate procurement of modern apparatus and utilization in different subjects accordingly.
2. The Counsellors should also advice the management on suitable environment for teaching learning to take place smoothly.

References

- Asadi, F. & Berimani, S. (2015). Effect of Audio-visual materials on Iranian school grade eight school students's language achievement: *International Journal of Language and Linguistics*, 3(3), 69- 75
- Bamidele, S.O., Seweje, R.O., & Alonge, M.F. (2002). *Educational research: A Comprehensive approach*. Ado-Ekiti: Green line Publishers.
- Castle, W. (1984). Audio-visual materials MCP up Ltd, *Instructional materials journal vol, 17, Iss:2*.
- Coolican, N. (2004). *The credential society*. New York: Academic Press
- Cohen, B. & Morrison, A.M. (2000). A school report on group counselling. *Personnel and Guidance Journal*. 41 (21), 133-138.
- Enen, F. O. (2000). *Fundamentals of social studies for schools and college Abuja*. Tonem publicity and publication.
- Devaw, T. (1996). *The relationship between anxiety, creativity, gender, academic achievement and social prestige among secondary school*. Malaysia. University of Shiraz.
- Gadzama, M. A. (1987). Report on effectiveness of instrumental materials as guide for effective teaching and learning.
- Glassman, H. (1994). The impact of environment in the teaching of integrated science. A publication of school of sciences, FCT college of education Zuba- Abuja pg. 36-38.
- Idris, A. O. (2015). The effect of Audio-visual materials in teaching and learning of speaking of skills in junior secondary schools in Katsina State Nigeria. *International journal of social science and humanities research* 3 (3), 50-58
- Karemera, U. (2003). *Teachers perception schools facilities that contribute to educational development in Nigeria, social science journal, Vol, 5. Issue*
- Kerlinger, F.W. (1973). *Multiple regressions in behavioural research*. New York, Rinehart Inc.
- Mallim, K.R. & Birch, R.F. (1997). A group Programme for bright failing underachievers. *Journal of College Student's Personnel*, 16 (3), 306-312.
- Mersden, I. (2005). *Teachers perception schools facilities that contribute to educational development in Nigeria, social science journal, Vol, 5. Issue*
- National Teachers Institute (1990). Physical surrounding refers to the geographical surroundings which include a host of structures such as the school building furniture's, equipment's instructional materials.
- Obetta, C. Z. (1996). Effects of physical environment. *Nigeria tribune Newspaper*, November 14, 1996 pg 10.
- Onasanya, S.A. & Adegbija, M.V. (2007). *Practical handbook on instructional media 2nd edition*. Illorin Graphicon Publishers
- Oyeshika, G. & Ashiru, I. (2003). *Communication and information technology in effective teacher trainer workshop for secondary school principals and teachers in Nigeria*. Lagos: Loform Educational Consultancy
- Slavin, R.E. (2010). A synthesis of research on language of reading instruction for English Language Learners. *Review of Educational Research*, 75(2), 247-254
- Tairu, B. (1987). Visual aids appeals to the sense of sight audio- visual appeals to the both senses of learning.
- Tilley, W. (1994). Creativity in the science classroom: why it is essential as a microscope? *The Science Teacher*, 56 (2), 35-36.
- Thouless T. W. (1985). *A journal on instrumental media (pictures, chart, & diagram)*. Vol.2 pg 13.
- WootingPong, K. (2014). Effective of using video materials in teaching and learning skills for University Students in Thailand – *International Journal of Linguistics* 6(4) 200- 212