**AUDIO VISUAL AIDS AND TEACHING EFFECTIVENESS IN TERTIARY INSTITUTIONS IN NIGERIA**

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**Abstract**

This study was to find out how audio visual aids and teaching effectiveness in tertiary institutions in Nigeria using Akwa Ibom State Polytechnic, Ikot osurua, Ikot Ekpene. The study adopted the descriptive survey design of correlation type. The population of the study consisted of one thousand two hundred and eighty nine (1289) students of HND II & ND II students of faculty of Applied Science of Akwa Ibom State Polytechnic. The main instrument of the study was a questionnaire. Face and content validation of the instrument was carried out to ensure that the instrument has the accuracy, appropriateness, completeness and the language of the study under consideration. The researcher subjected the data generated for this study to appropriate statistical techniques such as descriptive statistics and independent t-test analysis. The test for significance was done at 0.05 alpha levels. The study concluded that the stakeholders in education and supervisors most especially the lecturers, government, curriculum planners and even general public have now known the current status of learning outcomes in Faculty of applied science. The study recommended that since teacher quality was significantly related to students’ achievement in learning outcomes, lecturers should possess the requisite qualifications before being recruited to teach. Furthermore, the lecturers should adopt better teaching strategies during the teaching-learning process.

**Introduction**

In recent times, there has been an increasing concern for effectiveness and efficiency in the learning process. Anwukah (2000), opined that if any success must be achieved in attaining effective students learning outcomes. The teacher must know the instructional materials that are available for teaching a particular subject or topic and be able to utilize them to attain the expected students learning outcomes. Onyemerekeya (2003) defined students learning outcomes as statements which describes in a relatively specific manner, what the student should be able to achieve, produce or the characteristics the students should possess after completing the unit of a course of instruction. The classroom teacher must recognize that his task is not merely to teach but to stimulate learning. Teaching therefore is a process of guiding and directing the activities of the students in order to produce effective learning. In effect, the instructional procedure that will produce the desired learning outcomes must be adopted.

Onyenerekeya (2003) stated that instructional procedure is the main body of the lesson where detail of the content is recorded. It provides in steps the details of what is to be taught; it explains what the teacher should do and the activities of the students. At the appropriate stage of the development of the lesson, allowances are made for the use of relevant instructional materials. According to Eya and Ibekwe (2009), no matter how good a teacher may be judged to be, he needs some resources to aid him in his teaching.

Instructional materials are the tools used in educational lessons which enhance effective learning outcomes. They are educational resources used to improve students’ knowledge, abilities and skills. It is also used to promote assimilation of information and to contribute to the overall development and up bring of learners in their chosen academic endeavours. Onyeyemezi (2008) defined instructional materials as resources or teaching material which a teacher utilizes in the course of presenting a lesson in order to make the content of the lesson understood and also arouses the interest of the learners. This implies that availability and the use of instructional materials is necessary if effective teaching and learning must be achieved. When instructional materials are available, properly selected and used, they help him/her recall things that would have been easily forgotten. The use of instructional materials therefore becomes very crucial in improving the overall quality of the learning experiences of students (Oya and Onuora 2004). In the context of these studies, instructional materials refer the materials or devices used the teacher to augment students’ level of understanding the lesson.

Anyanwu (2003) stated “instead of the lecturers” explaining science subjects concepts and how to solve problems, they should provide the students with appropriate materials and encourage them to make observations from the hypothesis guiding students to discover new ideas by asking leading question. Instructional materials available for instruction in science subjects are subdivided into four major categories, namely; visual aids, audio aids, Audio visual and printed materials.

Visual aids are those instructional aids which are used in the classroom to encourage students learning process and enhance effective learning outcomes. According to Burton (2003) “visual aids are those sensory object or images which initiate or stimulate and support learning. Visual aids make an issue or lesson clearer or easier to understand, more real, more accurate and more active and interesting. In visual aids/materials learning is by engagement of the sense of sight or by visual senses. The examples of visual aids used in science subjects are pictures, maps, graphs, diagrams, atlas, painting, videos, slides, real objects, and models, graphics charts which are used in teaching classification, explanation of concepts or ideas.

Audio Aids/materials deals with the sense of hearing only and listening. According to Howard Gardner’s theory of multiple, intelligence, student learns in variety of ways, including listening. Some students are better auditory learners than others and may see more academic improvement when using i the classroom. Using audio materials in the classroom is one of the ways of achieving effective student’s learning outcomes. The learners relying solely on speech through direct instruction include listening activities around music, noises and interactive listening assignments. The examples of Audio Aids are audio recording, radio records, tape recordings (of events, stories and song), and music and so on. Using Audio Aids in the teaching learning process leads to effective students learning outcome.

Presently in Nigerian schools, especially considering its compulsory status of the basic education or foundational level, there is adequate provision of instructional materials for effective utilization by the lecturers. Most of the lessons presented by the instructor (lecturers) sometime does not really enhance effective learning outcome due to inadequacy of instructional materials. Instructional materials bridge the gap between the teacher and the learners and reduces the chalk-talk syndrome that involves only the learner’s sense of hearing which makes him loose interest after sometimes. Effort has been made by the government and private sectors on the provision of instructional materials to schools, though it is not adequate and sometimes the available one are not effectively used by t he lecturers.

**Social Learning Theory by Bandura (1997)**

This study was guided by Bandura (1997) Social Learning Theory. According to Bandura (1997), the theory emphasizes the importance of observing and modeling the behaviours, attitude, and emotional reactions of students. Bandura (1997) asserts that “learning would be exceedingly laborious, if people had to rely solely on the effect of their own actions of inform them what to do. Fortunately most skills acquisition is learned observationally through modeling from observing other ones. This forms an idea of how new skills are performed, and on later occasions this coded information serves as a guide for action.

 Social learning theory explains human behaviour in terms of continuous reciprocal interaction between cognitive, behavioural, and environmental influence. The components underlying observational learning are:

1. Attention, including modeled even (distinctiveness affective, valence, complexity, prevalence, functional values) and observer characteristics (sensory capacity, arousal level, perceptual set, past, reinforcement).

3. Retention, include symbolic, coding, cognitive organization, symbolic rehearsal, motor rehearsal.

4. Motivation, including external, vicarious and self-reinforcement (Bandura (1997:29).

 This is because social learning theory encompasses attention, memory and motivation, it spans both cognitive and behavioural framework. It depends largely on the individual attitudes and behaviours.

 Social learning theory has been applied extensively to the understanding of aggression and psychological disorders, particularly in the context of behaviour modification (Bandura (1997:31). It is also the theoretical foundation for the technique of behaviour modeling, which is widely used in training programmes. In recent years, Bandura (2007) focused his work on the concept of self-efficacy in a variety of contexts. He says “social learning incorporate principle of behaviourism as well as social learning incorporates principle of behaviourism as well as social cognitivism”. Thus is, the individual is motivated to engage in behaviour whose outcome is valued in which they feel capable of performing effectively. For instance, if a child should learn how to speak English, he or she has to be motivated to play around peers who speak English always and from there the child imbibes some knowledge of English but where he or she depends solely on what the teacher teaches in school without interacting with others, the learning outcome would be less than 1.

 There are two sets of expectancies. The first action-outcome reflects the degree to which individual believes that an action will lead to a particular outcome, such as smoking will cause cancer, the second is self-efficacy which reflects the individual’s belief that on one cope with most things life throws at one. Such beliefs moderate a variety of behaviours and although such beliefs are relevant to a particular decision, behaviour specific efficacy beliefs are frequently more powerful determinants of behaviour.

**RESEARCH METHOD**

**Area of the Study**

The research area for this study was in Akwa Ibom State Polytechnic. Akwa Ibom State Polytechnic Ikot Osurua was established by Akwa Ibom State Government Edict No. 11 of 1991.

**Design of the Study**

The design of the study was ex-post facto. Ex-post facto is an enquiry design in which the researcher has no control over the independent variables because they have already occurred. Asika (2000) stated that ex-post facto design investigate consequence and searching back by analyzing to establish possible causal factors. The researcher compared the independent variable on the dependent variable. The difference in the dependent variable was attributed to the impact of independent variables.

**Population of the Study**

The population of the study consisted of one thousand two hundred and eighty nine (1289) students of HND II & ND II students of faculty of Applied Science of Akwa Ibom State Polytechnic.

**Sample Size and Sampling Technique**

The sample of this study consisted of two hundred and fifty (250) respondents selected for the study. The simple randomly sampling technique was adopted in selecting the respondents the study area. The balloting system was used in selecting the sample.

**Research Instrument**

The questionnaire was used to obtain data on the independent and dependent variables presented in both sections A and B of the questionnaire. Section A measured demographic data of the respondents such as name of the department, gender, age, level and marital status, while Section B contained information on the independent and dependents variables.

**Validity of Instrument**

In order to establish the validity of the instrument, three test and measurement experts were given the instrument for vetting. The items in which at least two experts agreed upon were regarded as suitable and used in the instrument. The items in the questionnaire were consequently properly worded to meet the respondents’ level of understanding.

**Reliability of the Instrument**

The questionnaire was administered on a sample of 30 respondents who were not part of the sample used for the main study. The internal consistency reliability of the instrument was determined by split-half method whose correlation coefficient was converted to that of the full length of the instrument using the Spearman Brown formula. The coefficient obtained was 0.77 and was deemed acceptable for the use of the instrument in the study.

**Administration of the Instrument**

The researcher contacted each of the respondents during school hours and administered the questionnaire to them and retrieved that same day.

**Statistical Treatment of the Data**

Data gotten from the field were presented on tables which were calculated to descriptive analysis based on the answers elected from the respondents.

**Data Analyses and Results**

**Hypothesis Testing**

**Hypothesis One:** There is no significant influence of availability of visual aids and students’ learning outcomes in Faculty of applied science.

**TABLE 1: Independent t-test analysis of scores on the significant different in availability of visual aids and students’ learning outcomes in Faculty of applied science**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** | **N** | **X** | **SD** | **tcal** | **tcrit**  |
| High  | 196 | 43.86 | 21.26 | 3.73 | 1.96 |
| Low  | 54 | 31.30 | 24.12 |  |  |

\*Significant at 0.05 level; df= 248; N= 250

Table 1 presents the obtained t-value as 3.73. This value was greater than critical t-value (1.96) at 0.05 level of significant with 248 degree of freedom. This observation indicates that there is significant influence of availability of visual aids and students’ learning outcomes in faculty of applied science. Hence, null hypothesis one which assumed no significant difference was rejected.

**Hypothesis two:** There is no significant influence of availability of Audio Aids and students’ learning outcomes in faculty of applied science.

**TABLE 2: Independent t-test analysis of scores on the significant of availability of Audio Aids and students’ learning outcomes in faculty of applied science**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** |  **N** |  **X** |  **SD** | **Tcal**  | Tcrit |
| High | 153 | 47.78 | 25.18 | 3.30\* | 1.96 |
| Low | 97 | 41.74 | 23.01 |  |  |

\*Significant at 0.05 level; df= 248; N= 250

Table 2 presents the obtained t-value as 3.30. This value was greater than critical t-value (1.96) at 0.05 level of significant with 248 degree of freedom. This observation indicates that there is significant different in availability of Audio Aids and students’ learning outcomes in faculty of applied science was statistically significant. Hence, null hypothesis two which assumed no significant difference was rejected.

**Hypothesis three:** There is no significant influence of availability of Audio Visual Aids and student’s learning outcomes in faculty of applied science.

**TABLE 3: Independent t-test analysis of scores on the significant influence of availability of Audio Visual Aids and student’s learning outcomes in faculty of applied science**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** |  **n**  |  **X** | **SD** | **Tcal**  |  **Tcrit**  |
| High  | 135 | 59.95 | 19.27 | 9.88\* | 1.96 |
| Low  | 112 | 53.94 | 18.62 |  |  |

\*Significant at 0.05 level; df= 248; N= 250

Table 3 presents the obtained t-value as 9.88. This value was greater than critical t-value (1.96) at 0.05 level of significant with 248 degree of freedom. This observation indicates that there is significant influence of availability of Audio Visual Aids and student’s learning outcomes in faculty of applied science was statistically significant. Hence, the null hypothesis three which assumed no significant difference was rejected.

**Contributions to Knowledge**

This research is very crucial because, the stakeholders in education and supervisors most especially the lecturers, government, curriculum planners and even general public have now known the current status of learning outcomes in Faculty of applied science.

**Recommendations**

Based on the findings and conclusions of this study, the following recommendations were made:

Since teacher quality was significantly related to students’ achievement in learning outcomes in Physics, lecturers should possess the requisite qualifications before being recruited to teach. Furthermore, the Science subjects lecturers should adopt better teaching strategies during the teaching-learning process.

That the search light of blame on poor audio visual aids in teaching science subjects should be re-focused on areas such as poor language laboratory classes, home-task given and preparation/utility teaching aids by the audio visual aids in teaching physics.

Government through the Ministry of education and school management should come up with strategies to mitigate these challenges, for example building enough schools, providing lecturers with allowances that commensurate with the hardship they face in the regions.

Instruction resource should be provided in school by the government since instructional materials make teaching real and facilitate learners understanding. Government should provide enough textbook for each school. Government should provide a conducive and classroom environment to the school. Government should always assist in provision of laboratory, library and health service to enhance the academic achievement in audio visual aids in teaching physics.

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