

***AUDIO VISUAL AIDS AND STUDENTS' ATTITUDE TOWARDS SCIENCE
SUBJECTS IN KISORO DISTRICT: A CASE STUDY OF ST. ALLENS PRIMARY
SCHOOL***

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ABSTRACT

The major objective of this study lied in finding out whether there was a relationship between Audio Visual Aids and Students' Attitude towards science subjects at St. Allens Primary School, Kisoro District. Other objectives included: To find out the extent of use of Audio-Visual Aids at St. Allens Primary School, Kisoro District and to find out the level of students' attitude towards science subjects at St. Allens Primary School, Kisoro District.

The study adopted a qualitative and quantitative research design and simple random probability sampling technique were used to obtain a sample size 80 respondents of from at St. Allens Primary School, Kisoro District using solvin's formula.

The researcher found out that there is a very strong positive relationship between Audio Visual aids and students' attitude at $r = 0.876$ and since the sig. value (.000) was far less than 0.01, which is the maximum level of significance required declaring a significant relationship between Visual aids and students' attitude towards science subjects, this implies that if the level of use of audio visual aids is high, the level of students attitudes' towards science subjects is also high and if the level of use of audio visual aids is low, then the level of students attitudes' towards science subjects is also low. It was also found out that the mean percentage concerning the extent of use of audio-visual aids was 3.56%. The mean percentage is small hence indicating the low extent of using audio visual aids at St. Allens Primary school in Kisoro Municipality. The researcher recommends the teachers to always motivate their students and encourage them to offer science subjects such that they develop a positive attitude towards them.

*Key words: **audio visual aids and students' attitude***

Background of the study

According to Buruner (1966), Audio visual aids are those devices which are used in classrooms to encourage teaching learning process and make it easier and interesting. Audio visual aids is defined as training or educational materials directed at both the senses of hearing and the sense of sight, films, recordings, photographs etc. Senemoğlu (2005) define the term audio visual aid (AV) is an electronic media processing both a sound and a visual component, such as slide-tape presentations, films, television programs etc. Audio visual aids are components and materials that involve both recorded sound and pictures (Wirth & Perkins, 2008).

According to the study conducted by Ibrahim Muhammad Shamsuddin (2007) in Egypt, it was found out that audio-visual is now permeating the educational system as a tool for effective teaching and learning. With audio-visual, the communication of information can be done in a more effective manner and it can be an effective instructional medium for delivering information. Audio-visual access to knowledge is one of the possibilities of information and communication technology that has tremendous impact on learning. The instructional media have emerged in a variety of resources, and equipment, which can be used to supplement or complement the teachers' efforts in ensuring effective learning by students.

According to the research conducted by Amir Kabunga (2006) in Uganda, science is recognized widely as of great importance internationally for economic wellbeing of nations and the need for scientifically literate citizens. With the level of transformation taking place in Uganda, young people are called to take a stance on socio-scientific issues, to become more critical and problem solving so as to meet the challenges of the day.

A study conducted by Byamukama (2002) in Kisoro District-Uganda, he found out that attitude is an important concept in social judgments and behaviors and thus, is one of the most important

concepts in decision making (Venkatesh et al., 2003). In fact, studies Adesokan, (2002) indicate that attitude is one of the determinants of academic performance. An individual's attitude toward a person has a direct bearing on the person's reaction to the person.

The studies conducted on the importance of audio visual and other visual aids in enhancing students' interest in learning literature for example, the use of voice clips in teaching poems is vital because it could help students to understand the meaning and the message of the poems better.

Statement of the problem

The problem lied in finding out whether there was a relationship between the use of Audio Visual Aids and Students' Attitude towards science subjects at St. Allens Primary School, Kisoro District.

Specific Objectives

To find out the extent of use of Audio-Visual Aids at St. Allens Primary School, Kisoro District.

To find out the level of students' attitude towards science subjects at St. Allens Primary School, Kisoro District.

To find out the relationship between Audio Visual Aids and Students' Attitude towards science subjects at St. Allens Primary School, Kisoro District.

Research questions

What is the extent of use of Audio-Visual Aids at St. Allens Primary School, Kisoro District?

What is the level of students' attitude towards science subjects at St. Allens Primary School, Kisoro District?

What is the relationship between Audio Visual Aids and Students' Attitude towards science subjects at St. Allens Primary School, Kisoro District?

Methodology

Research design

The researcher employed a mixed approach of both qualitative and quantitative research designs to ensure valid data collection from the field in which data were expressed and interpreted both descriptively and numerically for in depth coverage of the study objectives. The researcher used these research designs to obtain, analyze, present and describe answers to some research questions in order to collect a more in-depth data from the field.

Target population

This is the aggregation of elements from which sample is actually selected (Babbie, 2004). The study population included 40 community members, 20 students, 18 teachers, a District Education Officer (DEO) and Local Council 1 Chairperson, making up a total study population of 80 residents in Kisoro Municipality. This was correlated with Slovenes formula of sample size determination to obtain a sample population of 80 respondents for this study.

The researcher also conducted a pre-survey, this aimed at getting a pre-survey report before the actual data collection stage was reached, and the pre survey report enabled the researcher to get prior information before starting collecting data from the selected respondents, prior information like the rules and regulations which govern the study were got under this pre survey report.

Sampling procedures

Sampling procedure refers to choosing part of a population to use to test hypotheses about the entire population (Jowin, 2003). The procedures included simple random sampling and purposive sampling and they were used to select respondents in the study.

Sample size

A sample is a small subset of the total population (George & Mallery, 2003).

The researcher considered a target population of 100 residents from which a sample size of 80 respondents were administered where 40 respondents were community members, 20 respondents were students, 18 participants were teachers, a District Education Officer (DEO) and Local Council 1 Chairperson.

Sampling techniques

Ahuja Ram (2010), defines sampling as the act or process of selecting a suitable sample of the population for the purpose of determining parameters of characteristics of the whole population, and these can be either probability or non- probability sampling techniques.

Simple random sampling

The simple random sample means that every case of the population has an equal probability of inclusion in sample (Ghauri & Gronhaug, 2005).

The respondents in this study included community members, teachers and students, while a District Education Officer (DEO) and LC 1 Chairperson were used as the key informants in the study. Simple random sampling will be used to select respondents in the group of community members, teachers and students and specific attention was paid to inclusion of both male and female respondents in the study area.

Purposive sampling

Purposive or judgmental sampling is a strategy in which particular settings persons or events are selected deliberately in order to provide important information that cannot be obtained from other choices (Maxwell, 1996).

Purposive sampling technique was used to select units into the sample which includes a District

*Education Officer (DEO) and LC 1
Chairperson.*

The researcher used this technique because it is very useful in situations when you need to reach a targeted sample quickly and where sampling for proportionality is not the main concern.

Data collection methods and Instruments

Data collection is a process of gathering data and measuring information on variables of interest in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes (Syed Muhammad Sajjad Kabir, 2016). Both the use of secondary and primary data methods was used by the researcher to collect qualitative and quantitative data information. Thus, different two methods were used to collect data which included questionnaire and interview method. These methods were used to collect data from all students, teachers and community members in Kisoro district and from St. Allens Primary school.

Questionnaire

A questionnaire is a data collection tool which consists of a number of questions printed or typed in a defined order on a form or set of forms which are used by the researcher in collection of data from the field (Goode & Hatt, 2003).

The researcher used the questionnaire as the major primary data collection in this study. The researcher prepared 40 questionnaires for community members, 20 for students, 18 for teachers and other for the key informants including a District Education Officer (DEO) and LC 1 Chairperson. All were written in English language because is the medium of instruction in most institutions.

Interviewing method

In this method, informed members were selected to inform the researcher about specific issues regarding the study. The instrument employed a key informative guide which includes questions

on the specific objectives of the study. This helped in capturing of qualitative information needed in this study.

Data analysis

The researcher analyzed and interpreted quantitative data by using statistical package for social science (SPSS) program to compute the percentages, frequency and tabulation of responses and both use of quantitative and qualitative types of data. Data was edited to identify and eliminate errors made by respondents. Coding was then be done to translate question responses into specific categories. Descriptive statistics such as frequency distribution and percentages were used to analyze the data. Qualitative data was analyzed using content analysis in which all the responses were categorized according to their thematic areas and analyzed according to their contents. Presentation was done on tables, figures and charts. Statistical Package for Social Sciences (SPSS) software was used to aid in the analysis of data.

RESULTS

Response rate

Questionnaire return rate

All the 80 questionnaires were given out, 50 were returned, thus representing 62.5% response. The study was considered good because according to Peil (1995), questionnaire return rate above 50% is considered good for a study.

Personal information of respondents

Information regarding to the personal background of the respondents included their age, gender, marital status, occupation, and education level.

Age of the respondents

Information regarding the age of the respondents was added to questionnaires during the

piloting process. The following information regarding the ages of the respondents was analyzed using SPSS Software and presented in form of grouped data as shown in the table 1

AGE OF RESPONDENTS					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-10	4	8.0	8.0	8.0
	10-20	4	8.0	8.0	16.0
	20-30	3	6.0	6.0	22.0
	30-40	13	26.0	26.0	48.0
	40-50	16	32.0	32.0	80.0
	50+	10	20.0	20.0	100.0
	Total	50	100.0	100.0	

Therefore, from the mean (4.2600) it was deduced that most of the respondents who participated in the study were from a mature group i.e., were within the age range of 40-50 years with 32.0% and this was because such people within that age group of 40-50 years can reason critically and use audio visual aids in learning. From this, it was then deduced that the validity and reliability of the obtained information were due to the mature minds which were studied. Also, from the table 1, the researcher found out that 8.0% of the respondents were aged between 0-10 years, 8.0% of the respondents in Kisoro Municipality were aged between 10-20years, 26.0% of the respondents were aged between 30-40years and 6.0% were aged between 20-30years and 20.0% were aged 50 years and above. The range was 5.00 and Std. Deviation was 1.48200.

Gender of Respondents

The study investigated the gender of the respondents and the findings were as shown in the table 2

GENDER OF RESPONDENTS				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid MALE	33	66.0	66.0	66.0
Valid FEMALE	17	34.0	34.0	100.0
Total	50	100.0	100.0	

From table 2, it was found out that 66.0% majority of the respondents were male with 66.0%

compared to females with 34.0%.

Information regarding the occupation of the respondents in Kisoro Municipality, Kisoro District was collected and presented in table 3

OCCUPATION OF RESPONDENTS				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid FARMER	26	52.0	52.0	52.0
CIVIL SERVANT	11	22.0	22.0	74.0
TEACHER	6	12.0	12.0	86.0
STUDENT	7	14.0	14.0	100.0
Total	50	100.0	100.0	

From table 3, it was found out that 52.0% of the respondents were farmers, 22.0% were civil servants, 12.0 were teachers and only 14.0% of the respondents in Kisoro Municipality, Kisoro were Students.

Marital status

Information regarding the marital status of the respondents in Kisoro Municipality, Kisoro District was collected and presented in table 4

MARITAL STATUS OF RESPONDENTS				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SINGLE	16	32.0	32.0	32.0
MARRIED	25	50.0	50.0	82.0
DIVORCED	9	18.0	18.0	100.0
Total	50	100.0	100.0	

From table 4, it was found out that, majority of the respondents were married with 50.0%,

32.0% of the respondents were single and only 18.0% had divorced.

Educational level of the respondents

Information regarding the academic background of respondents in Kisoro Municipality, Kisoro District was obtained and tabulated as shown in table 5

Table 5: Educational background of the respondents

EDUCATION LEVEL OF RESPONDENTS				
	Frequency	Percent	Valid Percent	Cumulative Percent
Primary and below	27	54.0	54.0	54.0
O level	10	20.0	20.0	74.0
Valid Certificate	4	8.0	8.0	82.0
Diploma	6	12.0	12.0	94.0
None	3	6.0	6.0	100.0
Total	50	100.0	100.0	

From table 5, it was found out in an analysis of interviews and questionnaire that majority of the respondents (54.0%) had only completed their Primary level of education and never continued with their further studies, 20.0% had completed Ordinary level of education, 8.0% had finished their certificate level of education, 12.0% had finished diploma level of education and 6.0% had not attended any level of education in their lives. From the statistics, it's indicating that the Education of Kisoro Municipality, Kisoro is lacking and needing.

The extent of use of Audio-Visual Aids at St. Allens Primary School, Kisoro District

This Section describes the independent variable (Audio Visual Aids). The independent variable was addressed in Section B of the questionnaire for respondents.

Table 6: The extent of use of Audio-Visual Aids

EXTENT OF USE OF AUDIO-VISUAL AIDS

N	Valid	50
	Missing	0
Mean		3.5667

The mean percentage concerning the extent of use of audio-visual aids was 3.56%. The mean percentage is small hence indicating the low extent of using audio visual aids at St. Allens Primary school in Kisoro Municipality. The extent of using audio visual aids was also analyzed and interpreted using frequency tables and percentages where the researcher found out that extent of using audio visual aids is low because 53.3% of the total population in the study agreed that the extent of application of audio-visual aids is low and this is attributed to many low funding and high levels of computer illiteracy among the people. 25.0% agreed that the extent of using audio visual aids at St. Allens Primary school in Kisoro Municipality is at a medium extent and only 21.7% revealed that the extent of at St. Allens Primary school in Kisoro Municipality is at a high extent.

The level of students' attitude towards science subjects at St. Allens Primary School, Kisoro Districts

This Section describes the dependent variable (Students' attitudes). The dependent variable was addressed in Section C of the questionnaire for respondents.

Table 7: Level of students' attitudes towards science

Statistics
LEVEL OF STUDENTS' ATTITUDES

N	Valid	50
	Missing	0
Mean		7.657(7.67%)

The mean percentage of concerning the level of students' attitudes was 7.67%. The mean percentage is high hence indicating the high level of students' attitudes towards science subjects

at St. Allen's primary school. The level of students' attitudes towards science subjects was also analyzed using frequency distributions and percentages where 54.0% of the respondents agreed that the level of students' attitudes towards science subjects is high and this was due to high motivation given by science teachers to students., 20.0% argued that the level of students' attitudes towards science subjects is at medium level and 26.0% revealed that the level of students' attitudes towards science subjects is low.

Relationship between Audio Visual Aids and Students' attitudes towards science subjects

Table 8: Showing Pearson Correlation between Audio Visual aids and students' attitude

		Audio Visual Aids	Students' attitudes
Audio Visual Aids	Pearson Correlation	1.00	.876
	Sig. (2-tailed)		.000
	N	50	50
Students' attitudes	Pearson Correlation	.876	1.00
	Sig. (2-tailed)	.000	
	N	50	50

** Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS output page

Table 8 indicates that there is a very strong positive relationship between Audio Visual aids and students' attitude at $r = 0.876$ and since the sig. value (.000) was far less than 0.01, which is the maximum level of significance required declaring a significant relationship between Visual aids and students' attitude towards science subjects, this implies that if the level of use of audio visual aids is high, the level of students attitudes' towards science subjects is also high and if the level of use of audio visual aids is low, then the level of students attitudes' towards science subjects is also

low.

Conclusion of the findings

There is a very strong positive relationship between Audio Visual aids and students' attitude at $r = 0.876$, this implies that if the level of use of audio-visual aids is high, the level of student's attitudes towards science subjects is also high and if the level of use of audio-visual aids is low, then the level of student's attitudes towards science subjects is also low.

Recommendations of the study

The researcher recommended the government to provide computers to schools such that learners are equipped with computer skills when they are still young in primary.

The researcher recommends the teachers to always motivate their students and encourage them to offer science subjects such that they develop a positive attitude towards them.

References

Achor, E & Orji, B C (2009). Level of students' motivation in classroom interactions in Integrated Science. Journal of Research in Curriculum and Teaching, 4(1), 294-303.

Achor, E (2004). The relationship between curriculum demands and physics achievement of senior secondary school students in Kogi State. Journal of the National Association of Science, Humanities and Education Research, 2(1), 20-26.

Agnew, P, Kellerman, A. S. & Meyer, J. (1996). Multimedia in the Classroom. Boston: Allyn and Bacon.

Anwukah, T. (1990). An after-use reflection on the observation technique of interaction analysis, procedure and limitations. International Journal of Education Research, 4, 6123.

Chauhan, S.S. (1979). Innovations in teaching learning process. New Delhi: Vilas publishing House.

Flander, N. A. (1970). Analyzing teacher behavior. Addison-Wesley: Reading Mass.

Johnson, D. W. & Johnson, R. T. (2000). Cooperative learning method. University of Minnesota, <http://www.co-operation.org>. Retrieved 22/05/09.

Johnson, D. W. & Johnson, R. T. (2000). Cooperative learning method. University of Minnesota, <http://www.co-operation.org>. Retrieved 22/05/09.

Neo, M. and Neo, T. K. (2000). Multimedia learning: using multimedia as a platform for instruction and learning in higher education. Paper presented at the Multimedia University International Symposium on Information and Communication Technologies 2000 (M2USIC'2000), October 5-6, 2000, Petaling Jaya, Malaysia.

Prosser, M. (1983). Relationship between the cognitive abilities of a group of tertiary physics students and the cognitive requirements of their textbooks. Science Education, 67(1), 075-083.

Prosser, M. (1983). Relationship between the cognitive abilities of a group of tertiary physics students and the cognitive requirements of their textbooks. Science Education, 67(1), 075-083.

Shayer, M & Adey, P (1981). Towards a science of science teaching: Cognitive development and curriculum demand. London: Oxford Pub.

Shayer, M & Adey, P (1981). Towards a science of science teaching: Cognitive development and curriculum demand. London: Oxford Pub.

Shuaibu, M & Iroegbu, N. (2003). A study of the relationship between parents and teachers' motivational support and secondary school students' achievement in science. Jos Journal of

Education, Vol.6, No.2, pp.114-121.

Shuell, T and Farber, S (2001). Students' perception of technology use in college courses. Journal of Educational Computing Research, Vol. 24 P. 125.

Udoh, A. O. (2008). An analysis of classroom interaction of senior secondary school chemistry teachers in Ikot Ekpene Local Government Area of Akwa Ibom State Nigeria. Journal of Science Teachers Association of Nigeria, 43(1&2), 16-22.

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Cambridge: Harvard University Pub.