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EFFECT OF SLIDE-TAPE MULTIMEDIA PACKAGE ON JUNIOR SECONDARY SCHOOL STUDENTS' PERFORMANCE IN POTTERY IN ILORIN, NIGERIA

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Slide tape is a multimedia package consisting of a slide show accompanied with sound, which is used in making presentation. Thus, this study investigated the effect of slide-tape on the performance of junior secondary school students in pottery as an aspect of Visual Art in Ilorin, Kwara State, Nigeria. 80 students were randomly selected from four junior secondary schools in Ilorin, Kwara State, Nigeria. Two groups comprising the experimental and the control were involved in the study. The experimental group was exposed to researchers developed slide tape instructional package treatment while the control group was taught using conventional method. The face and content validity of the package was assessed by two educational technologists and two fine art teachers. The package was adjudged as stimulating, captivating and suitable to teach junior secondary students. Percentages were used for demographic information while two-tail t-test was used to compare the mean of the two groups independently. The score of 1.812 at 2 degree of freedom and 0.05 alpha level was attained. The result of the findings revealed that the performance of students exposed to slide tape considerably improved than those taught using conventional method. Based on the findings, it was suggested among others that the Federal and State Governments should provide the necessary ICT facilities to schools to enhance teaching and learning at all levels of education. Workshops and seminars should be organized regularly for teachers to be current about innovations in teaching. Traditional technology should be taught with new technology using equipment and materials like potter's wheel to entice learners and boost productivity in secondary schools.

INTRODUCTION

The use of Information and Communication Tools to teach practical oriented subjects cannot be over emphasized. Such tools like

computer, video and slide assisted with audio help to relate theory with practical in order to make learning experience real; when more than one tool is used it becomes multimedia. This enables every stage to be remembered and recalled without relative stress. It has become common knowledge that when written words are accompanied with pictorial displays learning becomes more profound and recall is made easier.

Information and Communication Technology (ICT) world has initiated a transition of emphasis from an analogue educational research based technological development to that of a digital knowledge based technological development in education. ICT resources are looked upon as tools for the elevation of standard of education in any nation. Nigeria is not left behind in this race of communication explosion. Researchers are multiplying especially in higher institutions of Nigeria on the effects of multimedia play in enhancing the teaching and learning process. Hence slide with tape when combined in implementing the ICT resources in instructional development process prove to enhance performance.

Learning may not just be print or verbal dominance, but the practicability could go a long way to enhance students to participate actively in the learning processes. The National Policy on Education (FRN, 2009) encourages the acquisition of practical skills and knowledge relating to occupation to improve productivity and learning. According to (Dopemu 1986) in Adeyemo (2008), instructional materials that are visual can fundamentally improve the educational system by increasing the rates, depths, precision and value of the learning. Thus, the use of slides coupled with audio makes learning more attractive and interesting to clear ambiguous facts. Abstractions can be simplified with clear-cut analysis when broken down and related in multimedia format especially in pictorial forms. This can equally enhance the learning process.

Heinich, Molenda, Russel and Smaldino (2002), opined that harmonization of sound with slide presentation can have significant and dramatic impact on the learning process. When students are engaged in

the use of all senses to watch the stages involved in the production of a certain material; like the practice of molding clay, coupled with listening to the narration and experiment with clay to produce wares would make learning experiential to the learners. Dale (1949) in Dick and Carry (2005) also emphasized that the basis for effective learning is directed at purposeful learning that is multisensory for learners to be able to interact using all the five senses to make or produce certain things.

Statement of the Problem

Adeyemo (1989) reported that the art of pottery making is handed over from one generation to another while the trade is guarded jealously to protect the secrets. These trainers tend to keep certain things from the trainees especially if they are not their biological children. The current trend in research all over the world is the input of ICT facilities to enhance students learning. It was on this premise that the researchers incorporated pottery making processes on slide-tape a new technology to teach trade acquisition. This is in support of the new curriculum that emphasizes that self-reliance of learners at the end of junior secondary education.

Purpose of the Study

The purpose of the study was to examine the effects of slide tape on pottery teaching to junior secondary school students in Ilorin metropolis. Specifically the study sought to:

1. Examine the use of ICT tools (slide tape) and direct instruction to teach junior secondary school students pottery making processes.
2. Find out the effects of slide tape and direct instruction on the performance of junior secondary students in pottery making.

Research Questions

The study sought to provide answers to the following research questions:

- i. What are the effects of slide tape on Junior Secondary School students in pottery making?
- ii. Do students exposed to slide-tape performed better than those taught in a conventional way?

Research Hypothesis

Ho1: There is no significant difference between the use of slide-tape for teaching pottery in cultural and creative art and direct instruction

REVIEW OF RELATED LITERATURE

Teaching can be carried out where teachers and students come together in the classroom, this method is referred to as direct instruction. Direct Instruction is a skill-oriented approach in which teaching practices are teacher-directed. It emphasizes the use of small-group, face-to-face instruction by teachers and aides using carefully articulated lessons in which cognitive skills are broken down into small units, sequenced deliberately, and taught explicitly (Carnine, 2000). Direct instruction is an explicit and intensive instructional method that allows students of all abilities to become confident and capable learners. It empowered teachers to deliver consistently high levels of student achievement. It is sometimes called systematic teaching, explicit teaching, or active teaching.

Educational Technology uses both man and non-human resources to enhance teaching and learning. The non-human materials are machine and equipment that are used in schools by teachers and students. The National Policy on Education FRN (2004) stated that Government shall provide facilities and necessary infrastructure for the promotion of information and communication technology at all levels of

education (p. 53). If instructional materials are supplied and used effectively, hidden talents can be discovered among students. Learners are no more passive as they participate actively in listening, watching and sometimes manipulating the media to suit their purpose. A Learner that participates will be able to produce clay wares with the available resources.

Williams (2005) described multimedia as a technology that presents information in multiple medium like text, pictures, video, sound and animation in a single integrated communication. This is supported by Wiki (2006) that text, video still images are interactivity content forms which are more intuitive than old ways of teaching. It infers that multimedia can be used to learn at learner's convenience, different locations and without the teacher. They can manipulate the media to suit their individual differences in order to practice the art of pottery. Technology has made learning easy to cater for diverse needs of learners in this era of communication explosion. Mayer (2001) expressed one of the multimedia principles that people learn better from words and pictures than from words alone. Combination of one, two or more media may facilitate learning better.

Yusuf (1997) described slide tape as a form of multimedia approach to instruction which can be used not only to present learning experience but also to motivate students to participate in the classroom situation. Slide tape assisted with audio encourages active participation of students through the senses to be able to practice art of pottery. The use of slide tape supports active participation of the students because their senses are involved while watching it; they can touch, rewind and practice the art thereafter. Learning practical skills could involve deliberate activities that are practiced to teach abstract concepts like pottery by making the processes clearer to students.

Pottery teaching as an indigenous craft is practiced due to the availability of sticky type of earth called clay to make household wares, such as pots, cups, ornaments, artifacts and so on. Pottery provides knowledge and skills application to shaping earthen wares and vessels.

Banjoko (2000) reported that the art of pottery is practiced all over the world in places like China, the Japanese, Spain, Portugal, East and Central Africa. Also in Nigeria, the northern part of the country especially Suleja area of Niger State which produced the famous Ladi Kwali and Ilorin the capital of Kwara State is another notable home of pottery at Ile Alabere, Okelele area. Only women practice the art due to their patience in handling such material like clay. The young boys preferred western education to the craft pottery, and because the pottery work made the women self-reliant. These potters use bear hands to prepare the clay, process to mold pots, water reservoirs, safe and so on. Hands are coordinated by the brain to fashion out clay wares using methods like coil and pinching to produce their wares. Pottery teaching in secondary schools is under creative art whereby forms are got out of clay which is formless in nature to produce useful wares for domestic and aesthetic purposes. Adeyemo (1989) and Madu (2010) explained pottery as an aspect of ceramics and the art of using clay to make or produce wares like pots, plates, jugs, sockets, vases, switches and other breakable appliances. Ceramics is also called pottery according to Bayo (2010) the term is used interchangeably but it should be noted that the production process and the involvement of the equipment or chemical determines what it should be called.

The National Education Research Development Council (NERDC, 2007) encouraged practical learning of practical skills as it will help learners to develop creative ability, muscle control and appreciation of good craftsmanship towards the use of a particular medium. This is supported by Babalola (2009) that skills oriented training and entrepreneurial education may help students to be self-reliant at the end of their educational programme. This is supported by objectives of post-basic education and career development (PBECD), provide entrepreneurial, technical and vocational job-specific skills for self-reliance, and . . . industrial, commercial and economic development (FRN, 2013).

RESEARCH METHODOLOGY

Research Design

This study is a quasi-experimental type of the static-group comparison design. This design of experimental and control groups is with a pretest and posttest method.

Sampling and Sampling Techniques

Random sampling technique was employed to sample the subjects that were involved. The schools sampled were: Government High School Adeta, Ilorin; Bishop Smith Memorial College, Ilorin; Queen Elizabeth Secondary School, Ilorin and St. Anthony Secondary School, Ilorin, Kwara State.

The study targeted all junior secondary school students taking Fine Art in Ilorin, Kwara State. However, 80 students were randomly selected from four junior secondary schools in Ilorin, Kwara State, Nigeria two groups comprised of the experimental and the control were involved in the study. The experimental group was exposed to slide tape treatment while the control group was taught using conventional method.

Research Instrument

The instrument used was the researchers-developed Slide-tape Instructional package accompanied with sound and researchers-designed questionnaire that consisted of 20 research items on the junior Secondary School students' views on pottery making in Fine Art. There searcher-designed questionnaire entails two sections to gather the respondents' bio-data and opinions of students on the effects of Slide-tape Instructional Package accompanied with sound on students' performance in the acquisition of pottery making skills. The drafts of the instruments were given to 2 experts of Educational Technology and 2 Fine Art teachers to ensure the face and content validity of the items.

Data Analysis and Results

A t-test was used to statistically analyze the difference in the pretest and posttest mean scores. The raw data were generated from 40 students that were exposed to slides multimedia as the treatment for the experimental group while the other 40 were exposed to conventional teaching method. The result was analyzed using mean, standard deviation and the two-tail independent t-test to test the hypothesis.

Research Questions 1:

What are the effects of slide tape on Junior Secondary School Students' performance in pottery making?

Result

Table 1: t-Test difference in pretest of control and experimental group

School	No	Mean of performance			Significant difference
		Control	Experimental		
01	20	4	3.95	0.085	Insignificant
02	20	3.45	4.05	0.916	Insignificant
03	20	4.20	4	0.350	Insignificant
04	20	3.70	3.45	0.519	Insignificant

Table $t = 1.812$ at 2 degree of freedom and 0.05 alpha level.

The calculated T for each of the schools used to test the difference between the values of the pretest for the two groups in all the schools are insignificant at 2 degree of freedom and 0.05 alpha levels. It means that the entire subject has equal entry behavior.

Research Questions 2:

Result

Do students exposed to slide tape perform better than those taught in a conventional method?

Table 2: t-Test difference in posttest of control and experimental group

School	No	Mean of performance		Calculated indep "t"	Significant difference
		Control	Experimental		
01	20	5.40	8	6.598	significant
02	20	5.10	7.15	4.20	significant
03	20	4.85	7.10	5.725	significant
04	20	4.75	6.66	7.490	significant

The results indicated that though there is an improvement in the performance of the two groups, after the treatment, there is however a significant difference in the performance of the 2 groups in the post-tests. The calculated independent T using the mean of performance for the 2 groups in the post test are significant at 0.05 alpha level. Therefore, the hypothesis which stated that there is no significant difference between the use of slide tape for teaching pottery and the conventional teaching method was rejected and alternative hypothesis which stated there is significant difference between the performance of student taught pottery using slide tape and control is upheld. It means that slide tape treatment had positive effects on the performance of the experimental group because the mean values of the experimental group for all the schools were higher than that of the control group.

DISCUSSION

Based on the results, there was significant difference on the performance of the experimental group over the control group. This implies that students' performance is better enhanced when taught using slide tape. The mean gain of experimental group is relatively higher than the mean gain of the control group. This confirmed the findings of Aboyeji (2014), Adeyemo (2008) and Yusuf (1997) that basic technology, creative art and social studies concepts could be better taught and learned through the use of multimedia. This implies that ICT

tools can be employed to teach all subjects with ease to all students irrespective of their level of education and location. Pottery making can be assessable to learners without hindrance through innovative tools.

CONCLUSION

The study revealed that pottery making processes through slide makes the topic interesting to students. Students learnt the indigenous (pottery) technology through modern technology (slide tape) and their skills were better enhanced. They were able to practice the skills which if continued may enable them to be self-reliant in line with the governments entrepreneurship skill which would make them employers of labour rather than waiting on government for white collar jobs

RECOMMENDATIONS

Based on the conclusion, the following recommendations were made:

1. Teachers should endeavor to teach students via multimedia to motivate them learn with ease, thus makes learning experiential.
2. Teaching of indigenous technology should be encouraged through modern technology in order to bring the outside world into the classroom and doorstep of learners.
3. Government should provide media to assist learners in this ever increasing technological age
4. Enlightenment of the use of appropriate media should be given to teachers through seminars and workshops.

5. Use of media will enable teachers to vary their teaching strategies to enrich learning and appeal to the learners' senses.
6. As part of the government Millennium Development Goals (MDGs), they are to provide schools with modern pottery materials and equipment's to enhance teaching and learning

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