

CAUSES OF INADEQUATE ACQUISITION OF EDUCATIONAL MULTIMEDIA AMONG
STUDENT-TEACHERS OF CHRISTIAN RELIGIOUS STUDIES IN ISI-UZO LOCAL
GOVERNMENT AREA OF ENUGU STATE

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Abstract

Lack of access to multimedia-capable machines could hinder end users the benefits from multimedia courseware. Studies have shown, as presented in the body of this work, that causes of inadequate acquisition of educational multimedia are numerous at tertiary level of educational institutions in Nigeria, specifically, among university lecturers in Nigeria; and the gap in literature and empirical studies points to the fact that evidence-based survey needs to be carried out to identify peculiar causative factors militating against acquisition of educational multimedia among student-teachers in post-primary and primary levels of educational institutions in Nigeria. Therefore, this study was carried out, as a descriptive survey and was able to identify barriers to acquisition of educational multimedia among student-teachers of Christian Religious Studies in selected teaching practice schools in Isi-Uzo L.G.A of Enugu State, Nigeria. Causative factors identified include the followings: lack of multimedia support facilities (e.g. room for storage of hardwares); lack of materials to improvise educational multimedia; lack of technological skills to operate multimedia facilities such as computer hardwares; inadequate support from school administration (e. g. for consultation and orientation); and inadequate electricity supply.

Introduction

Educational multimedia refers to applied multimedia hardware and software as solution to solve educational problems, and hence attain pre-determined educational goals and instructional objectives. In other words, multimedia is considered as educational multimedia to the extent its being used or applied as strategy to achieve educational purposes or instructional aims and objectives. On the other hand, the term multimedia itself stands for “the exciting combination of computer hardware and software that allows you to integrate video, animation, audio, graphics, and text resources to develop effective presentations on an affordable desktop computer” (Frenrich as cited in National Open University of Nigeria, 2006).

Reddi (2003) argued that without access to multimedia-capable machines, end users may not benefit from multimedia courseware. Yet, studies have shown that multimedia technology allows creativity in teaching and learning, saves times of both learners and instructors, increases contact time available to learners with which to interact with their instructors, and more importantly, enhances effective presentation of interactive lessons. Krippel, McKee and Moody (2010) attest to the benefits of multimedia utilization in classroom instruction and in industrial training programmes.

Hofstener(2001) as cited in Dhull and Beniwal(2003) defines educational multimedia as the use of computer to present and combine text, graphics, audio and video with links and tools that let the user navigate, interact, create and communicate. This implies that there is provision for what appeal to sense of sight, hearing, and feeling in learning environment. Reddi (2003), while defining educational multimedia, cautioned against confusing it with judicious mix of various mass media such as print, audio and video on one hand or rendering the concept to mean

the development of computer-based hardware and software packages produced on a mass scale. In specific terms, Reddi opined that educational multimedia should be considered as an integration of multiple media elements that could merge multiple levels of learning into an educational tool that allows for diversity in curricula presentation. In other words, such multiple media elements include audio, video, graphics, text, and animation into one synergetic and symbiotic whole that could results in more benefits for the end user than any one of the media element can provide individually.

Summarily, the conceptualization of educational multimedia may be better understood in terms of what Salawu, Ajelabi and Inegbedion (2006) articulated while citing Wikipedia free encyclopedia thus,

The term multimedia describes a number of diverse technologies that allow visual and audio media to be combined in new ways for the purpose of communicating. Applications include entertainment, education and advertising. Multimedia often refers to computer technologies. Nearly every PC built today is capable of multimedia because they include a CD-ROM or DVD drive, and a good sound and video card (often built into the motherboard). But the term multimedia also describes a number of dedicated media appliances, such as digital video recorders (DVRs), interactive television, MP3 players, advanced wireless devices and public video displays (p.3).

Literature Review

Adegoke (2011) examined the effect of multimedia instruction on senior secondary school students' cognitive achievement in physics. He sampled 198 (106 boys and 92 girls) students who came from four senior secondary schools in Isokan and Ayedeade local Government Areas, Osun State, Nigeria; and organized three experimental groups and a control group. Three courseware versions namely, animation + on-screen text, animation + narration,

animation + on – screen text + narration were developed to examine the interface effects. A conventional lecture method group served as control. Adegoke found out that students under multimedia instruction performed better than their colleagues in the lecture group. These findings suggest that learning outcomes of students in physics can be enhanced with multimedia instruction. It must be noted that for Adegoke, multimedia instruction refers to both *words* and *pictures* that are intended to foster learning, the *word* can be printed (e.g. on-screen text) or spoken (e.g., narration). The *picture* can be static (e.g., illustrations, graphs, charts, photos, or maps) or dynamic (e.g., animation, video, or interactive illustrations).

Abubakar(2014) investigated the effect of multimedia facilities on the academic performance of Junior Secondary School Students (JSS) who were taught Islamic studies content of the curriculum. He sampled 100 students who were proportionally selected out of 2162 population and were placed into experimental and control groups. The study made use of a standardized achievement test items as the instrument for data collection, the scores obtained were analysed using the t-test statistical method. Quasi-experiment design involving the pre-test and post-test was employed for the purpose of the study. Abubakar discovered that multimedia facilities have a significant role on the performance of JSS students. Therefore, effective use of multimedia facilities in classroom instructions should be encouraged.

Oshinaike and Adekunmisi(2011) carried out a study on the use of multimedia for teaching in Nigerian university system, this was with reference to University of Ibadan. The study employed survey research method; while structured questionnaire, personal observation and short interview served as instruments for data collection. Specifically, the instruments were .designed to elicit information on the availability and use of multimedia for teaching and learning among lecturers in the Faculties of Arts and Education. The researchers found the followings:

i. Majority of the respondents do not have access to the multimedia resources on campus probably this might be responsible for use of these materials at their homes and cybercafes. ii. The multimedia collection in these faculties are being viewed by respondents as being grossly inadequate. iii. 28 (35.00%) of the respondents had access to the multimedia resources available on the campus while the remaining 52 (65.00%) do not have access. iv. It was also found that majority of the respondents did not make use of the multimedia resources in practical teaching but rather in forming lecture notes for teaching their students, paper presentations, research and publication activities/outlets. v. It was also found that the mostly used multimedia facilities were being used for research and publication activities rather than for teaching their students. vi. The study further revealed that the Internet and its facilities as well as the Computer and CD-ROMs were the mostly used of the multimedia resources while the television and transparencies were the least being used. vii. Lack of supportive infrastructures; lack of time to spend on technology, inadequate and or lack of training, inadequate fund on the part of individual lecturers and high cost of technology were the major constraint factor limiting the use of multimedia for real – life experience in teaching their students(p.9)

The findings of Adegoke (2011) and Abubakar(2014) as shown above are indicative of the relevance of educational multimedia to motivation, retention of learning, transfer of learning, and academic achievement both at senior secondary school level and at junior secondary school level in Nigeria. Moreover, their studies demonstrate the relevance of educational multimedia to

both science and arts education in Nigerian schools and colleges. Importance of educational multimedia to learning cannot be overemphasized even at tertiary level of educational institutions as shown in the work of Oshinaike and Adekunmisi(2011); their research findings equally demonstrate some of the barriers to utilization of educational multimedia among university lecturers in Nigeria. The gap left is whether their observed barriers are the same barriers against acquisition of educational multimedia among student-teachers in Nigeria.

Statement of the Problem

Acquisition of old and newer educational multimedia is beset with apparent barriers. The newer ones include personal computers, internet facilities, and interactive television among others. These newer ones tremendously impact positively on learning outcomes but grossly inadequate in most secondary schools in the study area. Reviewed literature attest to barriers to acquisition of information and communication technology (ICT) facilities in general but lacked evidence-based report to account for gross inadequacy of educational multimedia in the study area. Therefore, this study is a descriptive survey aimed at identifying barriers to acquisition of educational multimedia among student-teachers of Christian Religious Studies in selected teaching practice schools in Isi-Uzo L.G.A of Enugu State, Nigeria

Purpose of Study

The study is a focus on causative factors militating against acquisition of educational multimedia among student-teachers of Christian Religious Studies in selected teaching practice schools in Isi-Uzo L.G.A of Enugu State, Nigeria. Specifically, the study,

1. Identifies devices and materials perceived by student-teachers as educational multimedia for classroom instruction.

2. Identifies causes of inadequate acquisition of educational multimedia in their practice schools.
3. Investigates opportunities available to student-teachers to improvise relevant educational multimedia for classroom instruction in their practice schools.

Research Questions

1. What devices and materials do student-teachers perceive as educational multimedia for classroom instruction?
2. What are the causes of inadequate acquisition of educational multimedia among student-teachers of Christian Religious Studies in their practice schools?
3. What opportunities are available to student-teachers to improvise relevant educational multimedia for classroom instruction in their practice schools?

Methodology

The study employed descriptive survey design. The population for the study comprised all Christian Religious Studies' student-teachers posted to Isi-Uzo L. G. A. of Enugu State by Federal College of Education, Eha-Amufu, Enugu State. The population was made up of 2014/2015 set of student-teachers, who completed their teaching practice exercise in April, 2015. The student-teachers were distributed into four categories of practice schools namely, private-owned schools (4), mission-owned schools (6), community-owned schools(13), and government-owned schools(8). Similarly, 23 male student-teachers and 8 female student-teachers were involved in the survey. The entire population of 31 student-teachers of Christian Religious Studies was used for this study. Structured questionnaire, tagged Questionnaire on Barriers to Acquisition of Educational Multimedia among Student-Teachers of Christian Religious Studies (BAEMSCRS) was developed as instrument for data collection and was personally administered

by this researcher. Simple percentage and frequency table were used for data presentation while analysis of data was carried out according to research questions designed to guide this study.

Results and Discussion

Three research questions were used to guide this study as shown in the results and discussion presented below:

Research Question 1: What devices and materials do student-teachers perceive as educational multimedia for classroom instruction?

Table 1: Student-Teachers' Perception on what Constitute Educational Multimedia for Classroom Instruction

S/N	ITEMS	RESPONSE N==31	
		FREQUENCY	PERCENTAGE (%)
1	Personal computer with CD-ROM and DVD Writer	24	77.42
2	Internet facilities	26	83.87
3	Digital video recorder	18	58.06
4	Interactive television	21	67.74
5	MP3/MP4 players	10	32.26
6	Advanced wireless devices (such as i-cloud printers, e.g. Samsung and Google wireless printers)	28	90.32
7	Public video displays (multimedia projector)	24	77.42
8	Multimedia software (Windows movie maker, Adobe Photoshop, Adobe Premier for video editing, 3D Studio Max editing animations, Sound Forge for sound editing, Microsoft Office application such as PowerPoint.	17	54.84

9	Microsoft PowerPoint Slides	25	80.65
10	Electric screen for projection	25	80.65

Source: Field Survey by Author (2015)

Table 1 showed that 10(32.26%) of the student-teachers did not consider MP3 and MP4 players as educational multimedia for classroom instruction in Christian Religious Studies; while all other items in the table were considered to be educational multimedia in their perspective. Note that N=31 referred to the population of the respondents in the survey.

Research Question 2: What are the causes of inadequate acquisition of educational multimedia among student-teachers of Christian Religious Studies in their practice schools?

Table 2: Causes of Inadequate Acquisition of Educational Multimedia among Student-Teachers of Christian Religious Studies in their Practice Schools

S/N	ITEMS	RESPONSE (N=31)	
		FREQUENCY	PERCENTAGE (%)
1	High cost of purchasing educational multimedia hardware and software	28	90.32
2	Lack of support from school administration	24	77.42
3	Negative attitude of student-teachers	12	38.71
4	Inadequate effort to improvise	23	74.19
5	Fear of damage after procurement	22	70.97

Source: Field Survey by Author (2015)

Table 2 showed that 28(90.32%) of student-teachers surveyed considered high cost of purchasing educational multimedia hardware and software as barrier to acquisition of educational multimedia among student-teachers in their teaching practice schools. Similarly, 24(77.42%), 23(74.19%) and 22(70.97%) student-teachers considered lack of support from school administration, inadequate effort to improvise, fear of damage after procurement respectively as additional barriers to acquisition of educational multimedia in their practice

schools. However, 12(38.71%) of the respondents did not admit negative attitude of student-teachers as a barrier to acquisition of educational multimedia.

Research Question 3: What opportunities are available to student-teachers to improvise relevant educational multimedia for classroom instruction in their practice schools?

Table 3: Opportunities available to Student-Teachers to Improvise Relevant Educational Multimedia for CRS Classroom Instruction in their Practice Schools

S/N	ITEMS	RESPONSE (N=31)	
		FREQUENCY	PERCENTAGE (%)
1	Adequate financial support	25	80.65
2	Administrative support for improvisation(e. g. acquisition and utilization of Multimedia projector and Microsoft PowerPoint Slides for classroom instruction)	20	64.52
3	Workshop on improvisation	23	74.19
4	Adequate supply of electricity	23	74.19
5	Adequate supply of Multimedia software (Windows movie maker, Adobe Photoshop, Adobe Premier for video editing, 3D Studio Max editing animations, Sound Forge for sound editing, Microsoft Office application such as PowerPoint.	20	64.52
6	Provision of School Learning Resources Centres in primary and post-primary institutions of learning.	27	87.1
7	Flexibility in school time-timetable to accommodate change in lesson period	24	77.42
8	Maintaining culture of optimum workload rather than imposing excessive workload on student-teachers	21	67.74
9	Networking and information sharing on available Bible software and applications for classroom instruction	24	77.42
10	Maintaining culture of consultation and orientation on educational technology in teaching practice schools.	25	80.65

Source: Field Survey by Author (2015)

Tables 3 showed that majority of the respondents acknowledged various opportunities that could enhance improvisation of educational multimedia for classroom instruction, for instance, 25(80.65%) considered the need to maintaining culture of consultation and orientation on educational technology in teaching practice schools; provision of adequate financial support; while 27(87.1%) of the respondents accepted the need for provision of school learning resources centres in primary and post-primary institutions of learning, perhaps, to serve as platform to improvise educational multimedia for classroom instruction in Christian Religious Studies in Nigeria.

Summary of Findings

1. Majority of the respondents considered the following items as educational multimedia: personal computer with CD-ROM AND DVD writer; internet facilities; digital video recorder; interactive television; advanced wireless devices (such as i-cloud printers, e.g. Samsung and Google wireless printers); public video displays (multimedia projector); multimedia software (windows movie maker, Adobe Photoshop, Adobe Premier for video editing, 3D Studio Max editing animations, sound forge for sound editing, Microsoft Office application such as PowerPoint; Microsoft PowerPoint slides; electric screen for projection. However, majority did not admit MP3 and MP4 as educational multimedia.

2. Except for advanced wireless devices (such as i-cloud printers, e.g. Samsung and Google wireless printers) used on rare occasion by 17(54.84 %) of the student-teachers surveyed; majority of the respondents admitted that they never used any of the educational multimedia they perceived as appropriate for classroom instruction in Christian Religious Studies throughout their teaching practice period in their respective practice schools.

3. Majority of the respondents, 28(90.32%) of student-teachers surveyed considered high cost of purchasing educational multimedia hardware and software as one of the causes of inadequate acquisition of educational multimedia among student-teachers in their teaching practice schools. Other respondents, 24(77.42%), 23(74.19%) and 22(70.97%) student-teachers considered lack of support from school administration, inadequate effort to improvise, fear of damage after procurement respectively as additional causative factor to inadequate acquisition of educational multimedia in their practice schools. However, 12(38.71%) of the respondents did not admit negative attitude of student-teachers as a barrier to acquisition of educational multimedia.

4. Opportunities for improvisation of educational multimedia were identified namely, the need to maintain culture of consultation and orientation on educational technology in teaching practice schools; provision of adequate financial support; provision of school learning resources centres in primary and post-primary institutions of learning, which could serve as platform to improvise educational multimedia for classroom instruction in Christian Religious Studies in Nigeria.

Conclusion and Contributions to Knowledge

This paper postulates that there are several barriers to acquisition of educational multimedia. Secondly, the study found that collaboration among teaching practice schools, pre-service training institutions and ministries of education in Nigeria will go a long way to overcome identified barriers. Thirdly, this study is both informative and instructive specifically on how stakeholders in Christian Religious Education in Nigeria can enhance the acquisition of newer educational multimedia in classroom instructions, for example, integration of Microsoft PowerPoint and multimedia projector for multimedia instructional slide show (presentation).

Recommendations

Evidence-based research findings as presented above should be of immense benefit to the society, therefore, the following recommendations are offered.

1. Government of Federal Republic of Nigeria should provide school learning resources centres in primary and post-primary institutions of learning in Nigeria.
2. Universities and colleges of education in Nigeria should promote networking and information sharing on available Bible software and applications for classroom instruction in Christian Religious Studies.
3. Teaching practice schools and ministries of education in Nigeria should collaborate and maintain a culture of consultation and orientation on educational technology.
4. There should be administrative support for improvisation (e. g. acquisition and utilization of Multimedia projector and Microsoft PowerPoint Slides for classroom instruction) in practice schools whereby student-teachers could take advantage of the opportunities and advance their knowledge and skills in the use of educational multimedia.
5. Adequate financial provision should be made available to student-teachers to enhance their opportunities to acquire and utilize educational multimedia; for instance, Tertiary Education Fund and National Commission for Colleges of Education could work out modalities towards achieving such goal.

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