

Utilization of Multimedia and Hypermedia Instructional Resources in Enhancing Students' Skill Acquisition in Oyo State Technical Colleges

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ABSTRACT

The study investigated on the utilization of multimedia and hypermedia instructional resources in enhancing students' skill acquisition in technical colleges in Oyo State. A descriptive survey design was used for the study. Three research questions were raised for the study. The population for the study consisted of 55 technical colleges teachers in Oyo State. The whole population was used as study sample because of manageable size. The instrument for data collection was a structured questionnaire with 26 items and titled, Utilization of Multimedia and Hypermedia Instructional Resource Questionnaire "UMHIRQ". It was face and content validated by three experts from Department of Technology Education, Emmanuel Alayande University of Education, Oyo. Cronbach alpha was used to obtain 0.81 reliability coefficient. The data was analysed using mean and standard deviation. Findings revealed that the utilization of multimedia and hypermedia instructional resources by teachers in technical colleges was to a very low extent. However, it was recommended that teachers should be continually trained and retained by ICT expertise in meeting the challenges arising from the use of multimedia and hypermedia instructional resources for the teaching of students

Keywords: - Hypermedia, Instructional Resources, Multimedia, Students' Skill Acquisition, Technical Colleges, Utilization

I. INTRODUCTION

Instructional multimedia is the combination of two or more forms of media that enhances teaching and learning effectively in the classroom. Aduwa and Imogie (2007) also described multimedia instruction as the use of radio, tape recorders, slide, teaching machine, firms' trips, firms, chart, maps, graphics, video tapes recorders, slide protector, opaque, projector, overhead projector, still pictures, programmed instruction, television, computer and many others that are used to teach students. These instructional multimedia resources however assist in no small measure in disseminating information and communication towards teaching and learning process both at home and in the classroom especially in a class with a large number of students. Consequently, instructional multimedia which referred to as information carrier employed in the classroom to teach the students, displaying information relating to teaching and learning instructional multimedia. Association for Education Communication and Technology(AECT, 2004)described multimedia as a means born of the communication resolution which can be used for instructional purpose alongside the teachers, textbooks and chalkboard used in the classroom but Brickman and Redmond (2006) described the above multimedia as powerful possibilities for improving the learning process in complementing the effort of hypermedia which makes a difference in learners' attitude and change in behaviour. On the other hand, hypermedia as a new technology

which is basically a most recent form of computer-based instruction (CBI) and computer-based test (CBT) that have been in vogue for widely used in America for about two decades. The current notion of hypermedia is formed by two different fields: one is multimedia and the other is hypertext (Burton, Moore, & Holmes, 1995).

However, hypermedia instructional resources are classified as internet browsing, interactive, on line transaction, email, e-payment, Facebook, Whatsapp, Twitter, Instagram, Website, You-Tube, Skype and many more (Carlson & Firpo, 2009). They are all for the channel of passing and receiving information while at the same time teaching and learning are taking place. It is therefore in recent time, that no meaningful teaching and learning can be achieved or learners are domiciled without the support of hypermedia and multimedia instructional resources as lots of teaching and learning needs to be enhanced and achieved through these instructional resources. In view of these, multimedia and hypermedia instructional resources played the important roles to both teachers and learners by providing the teachers with means for extending his students horizon of experience, allowing all members of a group or class to share equally from the same teaching experience, classifying and illustrating nonverbal symbols images and abstract concepts; helping the teachers to provide his standards with meaningful sources of information and bring experts and multimedia resources to the classroom (Imogie, 1999). On the part of learners, the instructional multimedia resources can provide increased learning; provide the learners with the opportunity for independent and individualized learning; promote greater acquisition and longer retention of factual knowledge; and provide the learners the opportunities of direct intention with realities of other social and physical environment (Aduwa, 2005).

There is no doubt that the modern technological multimedia and hypermedia are vital to modern teaching and learning method in almost of our schools particularly where the subjects content involve practical such as technical courses. By this application, using multimedia and hypermedia system would assist students to learn very fast, interact with modern gadgets and enable them to assimilate the contents at a glance.

Statement of the Problem

Students of technical colleges who are expected to demonstrate saleable skills in their choice of occupation stills suffer in the world of

work as most employers finds them to be defective in performing their duties while some are still sent for retraining causing and extra cost for employer. Could this be as a result of inadequate training acquired from technical college due to not being familiarized with the uses of instructional resources such as multimedia and hypermedia instructions to buttress the essential points and making the teaching of theory simple, effective and understandable for the prove of theory to be transformed to practical. Hence, there is need for the study.

Purpose of the Study

The main purpose of this study is to examine the utilization of multimedia and hypermedia instructional resources in enhancing students' skill acquisition in technical colleges in Oyo State. Specifically, the study sought to determine:

- i. Extent to which the teachers are capable of using the multimedia and hypermedia instructional resources in enhancing students' skill acquisition.
- ii. Perceive constraints in utilizing multimedia and hypermedia instructional resources in enhancing students' skill acquisition.
- iii. Perceive strategies for effective utilizing multimedia and hypermedia instructional resources in enhancing students' skill acquisition.

Research Questions

The following research questions were raised for the study.

- i. To what extent do teachers utilize multimedia and hypermedia instructional resources in enhancing students' skill acquisition?
- ii. What are the perceived constraints in utilizing multimedia and hypermedia instructional resources in enhancing students' skill acquisition?
- iii. What are the perceived strategies for effective utilization of multimedia and hypermedia instructional resources in enhancing students' skill acquisition?

II. METHODOLOGY

Survey research design was used for the study. The population of the study comprises of 55 technical teachers in all the six technical colleges in Oyo State (TC Ibadan – 17; TC Oyo – 12; TC Ogbomosho – 9; TC Isey in -10 and TC Saki - 7). Total enumeration was used to select the population as study sample because of manageable size. The instrument used for data collection was

titled: Utilization of Multimedia and Hypermedia Instructional Resource Questionnaire “UMHIRQ” It was divided into two section A and B. Section A sought for demographic data while section B focused on the research questions guided the study. Three experts from Department of Technology Education, Emmanuel Alayande University of Education, Oyusing face and content validated for the instrument. A pilot test was conducted on 12 technical teachers in Ogun State and Cronbach alpha was used to obtained 0.81 reliability coefficient which was considered high enough for the study. Data was collected by the researchers and 100 percent return rate was achieved. The data was analysed using mean and standard deviation.

The decision rule was that any mean item of 2.49 and below will be considered low extent or disagreed while item(s) of mean score 2.5 and above will be considered high extent or agreed.

III. RESULTS AND DISCUSSION

The results of the data collected were analyzed and presented below in accordance with research questions thus:

Research Question 1: To what extent do teachers utilize multimedia and hypermedia instructional resources in enhancing students’ skill acquisition?

Table 1: Mean response on extent to which teachers utilize multimedia and hypermedia instructional resources in enhancing students’ skill acquisition

S/N	Items	Mean	SD	Remarks
1	Multimedia and hypermedia instructional resources are used to download learning contents such as PDF	3.11	0.61	High Extent
2	Effective multimedia and hypermedia instructional resources enable technical college students to download workshop exercises	3.06	0.64	High Extent
3	Learning technical courses online through multimedia and hypermedia instructional resources	3.29	0.66	High Extent
4	Quick and seamless technical course revision	2.87	0.62	High Extent
5	Supporting technical courses content learning through multimedia and hypermedia instructional resources	3.00	0.61	High Extent
Average				

Source: Field Work (2024)

Data presented in Table 1 showed that all the five items on extent of utilization of multimedia and hypermedia instructional resources have their mean ranged from 0.61 – 0.66 which indicated a very high extent of utilization. Also, standard deviation ranges from 0.97 – 1.02 which means

that the respondents views ware not too far from each other.

Research Question 2: What are the perceived constraints in utilizing multimedia and hypermedia instructional resources in enhancing students’ skill acquisition?

Table 2: Mean response on perceived constraints in utilizing multimedia and hypermedia instructional resources in enhancing students’ skill acquisition

S/N	Items	Mean	SD	Remark
1	Low availability of multimedia and hypermedia instructional resourcesfor teaching in the college	2.87	1.02	Agreed
2	Some of the multimedia and hypermedia instructional resources in the college are not functional	3.01	0.98	Agreed
3	Development of multimedia-based presentations consumes a lot of time	3.00	0.98	Agreed
4	Most technical teachers lack multimedia presentation design skills	2.93	1.00	Agreed
5	There is shortage of electricity supply in the	3.65	1.01	Agreed

6	college The school internet services are very poor and often not connecting	3.00	0.97	Agreed
7	Lack of technical personnel for the maintenance of the available multimedia facilities	3.42	0.99	Agreed
8	College receives little or no funds to purchase and maintain multimedia equipment	3.45	0.98	Agreed
9	Multimedia design apps are costly to purchase	2.98	1.00	Agreed
10	Limited space/lab for practical skills training	2.78	1.01	Agreed
11	Lack of regular training of teachers on multimedia design and use in instruction delivery	3.12	0.98	Agreed
12	Heavy workload on staff affects the use of multimedia in the classroom	2.84	0.97	Agreed
13	Most technical teachers feel reluctant in adopting multimedia because they are afraid of exposing their poor ICT skills before their students	3.24	1.00	Agreed
14	It is time-consuming to teach with multimedia	3.18	1.01	Agreed
	Average	3.10	0.99	Agreed

Source: Field Work (2024)

Result presented in Table 2 revealed that all the items ranged between 2.78 – 3.65 indicating that, the respondents showed a positive response to the items on perceived constraints in utilizing multimedia and hypermedia instructional resources. Item 5 showed the highest mean score which revealed a shortage of electricity supply in the college. Average mean score of 3.10 was obtained

and the standard deviation ranges from 0.97 – 1.02 which means that the respondents views were not too far from each other.

Research Question 3: What are the perceived strategies for effective utilization of multimedia and hypermedia instructional resources in enhancing students' skill acquisition?

Table 3: Mean response on perceived strategies for effective utilization of multimedia and hypermedia instructional resources in enhancing students' skill acquisition

S/N	Items	Mean	SD	Remarks
1	Regular training/retraining of technical teachers on innovative ways of teaching with multimedia	3.03	1.21	Agreed
2	Adequate provision of electricity for the use of multimedia and hypermedia instructional resources	3.10	1.19	Agreed
3	Adequate funds for the purchase and upkeep of multimedia and hypermedia instructional resources	3.50	1.20	Agreed
4	Deployment of ICT/Technical staff for regular maintenance of multimedia and hypermedia instructional resources	2.94	1.19	Agreed
5	Provision of quality and uninterrupted internet services for use by the technical teachers	3.00	1.23	Agreed
6	Collaboration among staff within and outside the school for sharing of multimedia and hypermedia instructional resources and ideas	2.67	1.21	Agreed
7	Organizing regular mentoring sessions for both old and new staff on multimedia and hypermedia instructional resources utilization in the classroom	3.12	1.21	Agreed
	Average	3.05	1.20	Agreed

Source: Field Work (2024)

Data presented in Table 3 revealed that all the seven items on perceived strategies for effective utilization of multimedia and hypermedia instructional resources showed a positive response. Item three showed the highest mean score of 3.50 which indicated that provision of adequate funds for the purchase and upkeep of multimedia and hypermedia instructional resources. The standard deviation ranged from 1.19-1.23 which proved that the respondents' views were not too far from each other.

IV. DISCUSSION OFFINDINGS

Findings from the study showed that the extent of utilization of multimedia and hypermedia instructional resources by teachers in technical colleges in Oyo State is to a very low extent. This is an indication that teachers of technical colleges do not use or include these instructional resources into their teaching-learning process. This finding aligned with the work of Nwangwu (2018) who posited that Nigeria schools are not given the required attention it deserves as this is significant as most schools do not have ICT facilities and where it is available they are not function. This assertion therefore suggested that teachers do not have access to technology- based tools for basic pedagogy.

Findings from the study, Table 2 revealed the perceived constraints in the use of multimedia and hypermedia instructional resources by teachers in technical colleges in Oyo State. These include unavailability and nonfunctional of the resources, lack of technical skills in usage, epileptic power supply and inadequate maintenance among others. This result is consistent with the research of Nwangwu (2018), who discovered that low quality or nonexistent learning environments, a lack of educational materials, and difficulties with time management are the main causes of students' subpar performance. According to Wozney, Venkatesh, and Abrami (2006), effective computer integration into the classroom is contingent upon the professional development of teachers.

The findings in Table 3 revealed the perceived strategies for effective use of multimedia and hypermedia instructional resources in instruction delivery. These strategies include among others regular training of teachers on innovative ways of teaching with multimedia and hypermedia instructional resources, adequate provision of electricity and adequate funds for the purchase and upkeep of resources among others. These results concur with those of Eneovo (2018), who stated that some of the strategies needed to

lessen the obstacles to ICT use in teaching and learning include providing adequate funding, providing adequate facilities, planning retraining activities for educators, and providing alternative sources of power. The results also support earlier research by Ulifun, which was highlighted by Okoli and Okorie (2015) and Hennessy, Harrison, and Wamakote (2010), who concluded that adequate, up-to-date teaching facilities are essential to achieving learning objectives.

V. CONCLUSION

The study examined the extent to which technical college teachers utilize multimedia and hypermedia instructional resources in teaching and learning process. The findings revealed that the extent to which multimedia and hypermedia instructional resources were utilized by teachers was very low. The reasons for this development were attributed to poor funding, poor design skills, lack/limited access to the internet, inadequate multimedia resources, epileptic electricity supply, irregular training and retraining of teachers' presentation skills among other factors. On the way forward, it was found that staff raining/retraining exercises should be conducted on a regular basis; the internet services provided for use by teachers should be improved; conducting regular mentoring sessions for both old and new staff on effective ways of utilizing ICTs in teaching and learning process among others.

VI. RECOMMENDATIONS

The following recommendations were provided based on the outcome of the research work;

1. Teachers should be continually trained and retained by ICT expertise in meeting the challenges arising from the use of multimedia and hypermedia instructional resources for the teaching of students.
2. There should be repairs to the non-functional multimedia and hypermedia instructional resources by the management of colleges having accessed the funds to them by the Federal and State Government.
3. There should be purchased of the modern time instructional hypermedia and multimedia resources by the management or seek for aids from external bodies such as PTA or philanthropist for effective use of teaching and learning process in the college.
4. Seminar and workshops should be organized by the management for teachers on how to use, teach and realized the importance of multimedia and hypermedia instruction for

students' teaching aids for the skills acquisition.

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