

IMPACT OF MODERN TECHNOLOGIES' USAGE IN EFFECTIVE CURRICULUM CONTENT DELIVERY IN PUBLIC SECONDARY SCHOOLS IN ENUGU STATE

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Abstract

This study examined the impact of modern technologies' usage in effective curriculum content delivery in public secondary schools in Enugu State. Descriptive survey research design was adopted for the study. The study was guided by two research questions and two null-hypotheses. The population for the study was 8,868 respondents which comprised 295 principals and 8,573 teachers respectively. The sample size of the study was 293 principals and 507 teachers totaling 802 respondents. The sample for the principals comprised all the two hundred and ninety-five (295) principals and 6% of all the teachers in each of the three zones were selected for the study which was 507. The instrument for data collection was a structured questionnaire titled "Modern Technologies' usage in Effective Curriculum Content Delivery Questionnaire (MTECDQ)". The instrument was validated by three research experts who were from Department of Educational Management and the other from Measurement and Evaluation Unit of Department of Mathematics and Computer Education all in the Faculty of Education, Enugu State University of Science and Technology (ESUT). Cronbach alpha method was used to determine the reliability of the instrument which yielded 0.78 for cluster A and 0.80 for cluster B with an overall reliability index of 0.79 which made the instrument reliable and was used for data collection. A 4 point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) was used with numerical values of 4, 3, 2 and 1 for both positive and negative items respectively. However, out of the 802 copies of the instrument administered on the respondents, the researchers and their assistants retrieved 742 copies (274 from the principals and 468 from the teachers) which was a 93% retrieval rate. Mean scores and standard deviation were used for analysing the data collated while t-test statistic was used to test the null hypotheses at 0.05 level of significance. The findings of the study revealed that modern technologies have impacts on effective curriculum delivery in terms of effective teaching and learning. The researchers recommended among others that public secondary schools need to integrate modern technologies in education which is the way so far viable to prepare learners to operate in the modern knowledge economy. Also, the school should provide an enabling

environment where teaching and learning can thrive with the inclusion of modern technologies.

Keywords: Impact, Modern Technologies, Curriculum Content, Effective Delivery, Public Secondary Schools, Enugu State.

Introduction

The role of technology in classroom instruction is gaining prominence in developing countries especially in Nigeria. It is difficult to deny that the advent of technology has dramatically transformed almost every aspect of people's lives. Technology is the application of scientific knowledge to solve the practical problems of man in his environment. It is a systematic integral process for separation and analysing problems, devising, implementing; managing; controlling and evaluating solutions to the problems (Bawa and Moyijo, 2015). The rapid growth of the global economy and the information based society has pressurized education systems round the world to use modern technologies to teach the knowledge and skills they need in the 21st Century (World Bank in Obonyo, 2013). Modern technologies in this study include the computer, the internet, projector screen, flash drive among others. The growth of the technology sector has challenged teachers to prepare for effective usage of modern technologies in their teaching profession for effective curriculum content delivery.

The term curriculum refers to the lessons and academic content taught in a school or in a specific course or programme. Eisner (2014) opined that curriculum pertains to instruction that is planned with associated intended outcomes, recognizing that much more may occur in the classroom that is meaningful and relevant, even though it may be unintended. Curriculum is all what students do which they learn from the day they enter school to the day they leave the school (Edozie, 2012). Ukpogon and Nsidibe (2012), defined curriculum as the sum or total of all the experiences provided to the learners under the guidance of the school. Hass in Ukpogon and Nsidibe (2012) defined curriculum as all the experiences that individual learners have in a programme of education whose purpose is to achieve broad goals and related specific objectives which is planned in terms of a framework of theory and research or past or present professional practice.

The pattern in which teaching and learning process is undergone today is expected to shift from the conventional method to a more dynamic and flexible one, which is learner-centred (Ezekoka and Okoli, 2012). Currently, the place of technology for teaching and learning cannot be overemphasized, especially with regard to students' performance (Ejionueme, 2012). Therefore, it becomes pertinent for teachers, who serve as key implementers of the nation's educational policy, to be well-informed and adequately equipped with relevant skills in order to function productively in this age of information explosion and technological advancement. Prior to the advent of computer technology into education activities, lecture, demonstration, field trip methods have been primarily used in secondary schools in teaching and learning process. According to Ezugwu (2010), the dominant method of teaching and learning of various subjects in secondary schools today is the lecture method.

Furthermore, research findings have established that conventional teaching methods have contributed to students' poor levels of academic performance in some subjects. This is as a

result of improper teaching and learning strategies employed for teaching practical based subjects in schools (Nwanekezi and Kalu, 2012). Recently, teaching methods in the classrooms have been changing and this is influenced by technological advancements and innovations. Grabe and Grabe, (2007) emphasized that technologies can play an important role in enabling students gain skills and knowledge in the teaching and learning process. Based on the importance of modern technologies in teaching and learning process, it is hoped that its integration to teaching and learning will bring about positive impact on effective curriculum delivery with particular reference to effective teaching and learning. This constitutes the gap this study intends to fill.

Statement of the Problem

Recent WAEC Chief Examiner's reports in Enugu state indicated steady trend of low academic performance of students in the public secondary schools. This is of serious concern not only to teachers who are the drivers of education but also to students, school authorities and other strategic stakeholders such as parents, government and researchers. Stakeholders have put the blame on the teachers for not doing their work efficiently especially in the aspect of effectively delivering the curriculum content. The teachers on the other hand have blamed the school authorities for not providing the requisite pattern of teaching which has affected their productivity. The pattern in which teaching and learning process is undergone today is expected to shift from the conventional method to a more dynamic and flexible one, which is learner-centred. This learner-centred approach makes students to influence the content, activities, materials and pace of learning, which places them in the centre of the learning process and enhances independent learning which made modern technologies usage important. The above situation has generated speculations such as, could it be as a result of teachers' lack of modern technologies usage, poor or inappropriate instructional methodologies or poor use of modern technologies by the learners. The problem of this study put as a question is: what is the impact of modern technologies' usage in effective curriculum content delivery in public secondary schools in Enugu State?

Purpose of the Study

The main purpose of the study was to ascertain the impact of modern technologies' usage in effective curriculum content delivery in public secondary schools in Enugu State. Specifically, the study sought to:

1. Determine the impact of modern technologies usage in effective curriculum content delivery in public secondary schools as regards effective teaching in Enugu state;
2. Identify the impact of modern technologies usage in effective curriculum content delivery in public secondary schools in the aspect of learning in Enugu state.

Research Questions

The following research questions guided the study:

1. What is the impact of modern technologies usage in effective curriculum content delivery in public secondary schools as regards effective teaching in Enugu state?
2. What is the impact of modern technologies usage in effective curriculum content delivery in public secondary schools in the aspect of effective learning in Enugu state?

Hypotheses

The following null hypotheses were formulated and tested at .05 level of significance:

H₀₁: There is no significant difference between the mean scores of principals and teachers on the impact of modern technologies' usage in effective curriculum content delivery in urban and rural public secondary schools as regards effective teaching in Enugu state.

H₀₂: There is no significant difference between the mean scores of principals and teachers on the impact of modern technologies usage in effective curriculum content delivery in urban and rural public secondary schools in the aspect of effective learning in Enugu state.

Method

The researchers adopted descriptive survey method for the study. The researchers adopted this design because it is the most appropriate for collecting data on occurring issues and/or problems in the society. Nworgu (2018), defined descriptive survey research design as one which aims at collecting data and describing in a systematic manner the characteristic features or facts about a given population. Nevertheless, information is needed upon which certain statements could be made about the whole population. The study was carried out in the 295 public secondary schools in Enugu state. Enugu State came to be through restructuring of old Anambra State into Enugu, Anambra and Ebonyi States respectively. Enugu State is made up of 17 Local Government Areas which is based on six education zones namely; Agbani, Awgu, Enugu, Nsukka, Obollo-Afor and Udi. The population for the study was 8,868 respondents which comprised 295 principals and 8,573 teachers respectively. The sample for the principals comprised all the two hundred and ninety-five (295) principals of public secondary schools in Enugu State (PPSMB Zonal Office: Records and Statistics Unit 2022). This means that the entire population of the principals constituted part of the sample for the study. To get the sample for the teachers, the population was stratified into three education zones and 6% of all the teachers in each of the three zones were selected for the study (Enugu 211, Udi 152 and Awgu 144), which is 507.

Therefore, the entire sample size of the study is 293 principals and 507 teachers totaling 800 respondents. The instrument for data collection was a structured questionnaire developed by the researcher and titled "Modern Technologies' usage in Effective Curriculum Content Delivery Questionnaire (MTECDQ)". The instrument was validated by three research experts who were from Department of Educational Management and the other from Measurement and Evaluation Unit of Department of Mathematics and Computer Education all in the Faculty of Education, Enugu State University of Science and Technology (ESUT). The instrument consisted of 10 items allocated to the two research questions. Cronbach alpha method was used to determine the reliability of the instrument which yielded 0.78 for cluster A and 0.80 for cluster B with an overall reliability index of 0.79 which made the instrument reliable and was used for data collection.

A 4 point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) was used with numerical values of 4, 3, 2 and 1 for all the items respectively. The researchers were assisted by two research assistants in the administration and collection of data. However, out of the 802 copies of the instrument administered on the respondents, the

researchers and their assistants retrieved 742 copies (274 from the principals and 468 from the teachers) which was a 93% retrieval rate. Mean scores and standard deviation were used for analysing the data collated while t-test statistic was used to test the null hypotheses at 0.05 level of significance. The benchmark set for the mean scores was that any mean rating more than or equal to 2.50 was said to be “Agree” while any mean rating below 2.50 was to be “Disagree”.

Results

Research Question 1: What is the impact of modern technologies’ usage in effective curriculum content delivery in public secondary schools as regards effective teaching in Enugu State?

Table 1: Mean scores of principals and teachers on the impact of modern technologies usage in effective curriculum content delivery as regards effective teaching

ITEMS		Principals 274			Teachers 468		
S/N	Modern technologies impact effective teaching by:	\bar{x}	SD	Dec	\bar{x}	SD	Dec
1.	Creating an interesting instructional delivery.	2.61	0.88	A	2.58	0.91	A
2.	Evaluating the students accurately.	2.66	0.91	A	2.53	1.03	A
3.	Ensuring a complete content coverage.	2.50	1.01	A	2.52	0.87	A
4.	Creating an impressive set induction.	2.59	0.85	A	2.60	0.99	A
5.	Using illustrations to teach.	2.55	0.99	A	2.59	0.88	A
Grand Mean		2.58	0.93	A	2.56	0.94	A

Table 1 shows that both the principals and teachers agreed that modern technology usage has an impact on effective curriculum delivery as regards effective teaching in public secondary schools as indicated by the grand mean scores of 2.58 for principals and 2.56 for teachers. Item by item mean score analysis shows that principals and teachers agreed on all the items stated. On the other hand, the standard deviations of both principals and teachers show that they are closely related.

Research Question 2: What is the impact of modern technologies’ usage in effective curriculum content delivery in public secondary schools in the aspect of effective learning in Enugu State?

Table 2: Mean scores of principals and teachers on the impact of modern technologies usage in effective curriculum content delivery in the aspect of effective learning

ITEMS		Principals 274			Teachers 468		
S/N	Modern technologies impact learning by:	\bar{x}	SD	Dec	\bar{x}	SD	Dec
6.	Making the learners to have mastery of the things taught.	2.66	1.01	A	2.59	0.90	A

7.	Developing learners' interest.	2.58	0.95	A	2.62	0.94	A
8.	Improving learners' retention.	2.77	0.89	A	2.68	0.99	A
9.	Making learners to be involved in cooperative learning.	2.51	0.91	A	2.65	0.93	A
10.	Ensuring an improvement in learners' academic performance.	2.55	0.99	A	2.62	0.95	A
Grand Mean		2.61	0.95	A	2.63	0.94	A

Table 2 shows that both the principals and teachers agreed that modern technology usage has an impact on effective curriculum delivery in the aspect of effective learning in public secondary schools as indicated by the grand mean scores of 2.61 for principals and 2.64 for teachers. Item by item mean score analysis shows that principals and teachers agreed on all the items stated. On the other hand, the standard deviations of both principals and teachers show that they are closely related.

H₀₁: There is no significant difference between the mean scores of principals and teachers in the impact of modern technologies' usage in effective curriculum content delivery in urban and rural public secondary schools as regards effective teaching in Enugu State.

Table 3: Summary of t-test analysis on the mean scores of principals and teachers on the impact of modern technologies usage in effective curriculum content delivery as regards effective teaching

Group	N	Mean	SD	df	t-cal	t-crit	Decision
Principals	274	2.58	0.93				
				740	0.29	±1.96	Not Significant
Teachers	468	2.56	0.94				

Analysis in Table 3 shows 0.29 t-value. This indicates that the independent t-test analysis of both principals and teachers is statistically not significant at 0.05 (two-tailed) test. The study, therefore, did not reject the null hypothesis, with a conclusion that there is no significant difference in the mean scores of principals and teachers on the impact of modern technologies usage in effective curriculum content delivery as regards effective teaching in public secondary schools in Enugu state.

H₀₂: There is no significant difference between the mean scores of principals and teachers in the impact of modern technologies' usage in effective curriculum content delivery in urban and rural public secondary schools in the aspect of effective learning in Enugu state.

Table 4: Summary of t-test analysis on the mean scores of principals and teachers on the impact of modern technologies usage in effective curriculum content delivery as regards effective learning

Group	N	Mean	SD	df	t-cal	t-crit	Decision
Principals	274	2.61	0.95	740	0.29	±1.96	Not Significant
Teachers	468	2.63	0.94				

Analysis in Table 3 shows 0.29 t-value. This indicates that the independent t-test analysis of both principals and teachers is statistically not significant at 0.05 (two-tailed) test. The study, therefore, did not reject the null hypothesis, with a conclusion that there is no significant difference in the mean scores of principals and teachers on the impact of modern technologies usage in effective curriculum content delivery in the aspect of effective learning in public secondary schools in Enugu state.

Discussion of Findings

The study found that modern technologies’ usage has an impact on effective curriculum content delivery as regards effective teaching in public secondary schools in Enugu state. The respondents were of the opinions that modern technologies have impact on effective teaching by creating an interesting instructional delivery, evaluating the students accurately, ensuring a complete content coverage, creating an impressive set induction and using illustrations to teach. Also, the study found that there was no significant difference in the mean scores of principals and teachers on the impact of modern technologies usage in effective curriculum content delivery as regards effective teaching in public secondary schools in Enugu State. The findings are in agreement with Larsen-Freeman and Anderson (2011) who supported the view that technology provides teaching resources and brings learning experience to the learners’ world. Hence, modern technologies should be inculcated in the teaching process in order to attain the education aims and objectives.

The findings of the study revealed that modern technologies’ usage has an impact on effective curriculum content delivery in terms of effective learning in public secondary schools in Enugu state. The respondents were of the opinions that modern technologies have impact on effective learning by making the learners to have mastery of the things taught, developing learners’ interest, improving learners’ retention, making learners to be involved in cooperative learning and ensuring an improvement in learners’ academic performance. Also, the study found that there was no significant difference in the mean scores of principals and teachers on the impact of modern technologies usage in effective curriculum content delivery in terms of effective learning in public secondary schools in Enugu state. The findings are in line with Peregoy and Boyle (2012) who posited that using technology tools enhanced learners’ ability to learn faster because they are user-friendly. The learners learn more effectively when they use modern technology tools instead of traditional teaching hence they should be allowed to have access to the tools.

Conclusion

The study centered on the impact of modern technologies' usage in effective curriculum content delivery in public secondary schools in Enugu state. It has been observed that modern technologies have significant roles to play in improving the standards in education hence its inclusion in the curriculum content delivery is a step in the right direction. The drivers of education who are known as teachers should take advantage of this in the good light and eliminate the drawbacks which are pulling back many of their students as well as schools from achieving the laid down goals and objectives. Hence, it is time for every country to introduce a more technologically equipped education sector in the future for the betterment of her citizenry.

Recommendations

Based on the findings of the study, the researchers recommended that:

1. Public secondary schools need to integrate modern technologies in education which is the way so far viable to prepare learners to operate in the modern knowledge economy.
2. The school should provide an enabling environment where teaching and learning can thrive with the inclusion of modern technologies.
3. Teachers should be given sufficient training on how to use modern technologies in teaching and learning processes to acquire the requisite knowledge and skills in integrating the technology in classrooms.
4. Learners should be involved in using modern technologies in learning activities such as doing assignments and searching the internet for learning resources because it is believed that modern technologies can enhance teacher and learner interaction and also tends to increase learner's learning motivations.

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