

ENHANCING TEACHERS' CLASSROOM MANAGEMENT USING EDUCATIONAL TECHNOLOGY IN COLLEGES OF EDUCATION IN ERA OF COVID-19 IN SOUTH-EAST, NIGERIA

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Abstract

This study focused on enhancing teachers' classroom management in colleges of education using educational technology in the era of Covid-19 in South-East Nigeria. Descriptive survey design was adopted. Two research questions and two hypotheses guided the study. Purposive sampling technique was used to sample 20 lecturers and 200 students from the 5 federal colleges of education in South-East Nigeria. The instrument for data collection was a researcher's structured questionnaire titled "Education Technology and Classroom Management" (ETCM). The instrument was validated by three experts. Cronbach Alpha was used to estimate the reliability which yielded reliably indices of .79 and .74 for clusters 1 and 2 respectively. The instrument was administered by the researcher and five research assistants. Mean and standard deviation were used to answer the research questions while t-test statistics was used to test the hypotheses. The result of the study showed that educational technology enhance teachers' classroom management to high extent. Obstacles to effective use of educational technology were identified. Based on the findings, recommendations were made include among others that there should be gradual integration of the use of educational technology in digital education to minimize the crowd in classrooms to avoid the spread of Covid-19.

Keywords: Classroom management, Educational Technology, Covid-19.

Introduction

The main objective of education is equipping the individual with requisite knowledge and skills to enable him/her contribute effectively to national development. The school is one of the agencies established by law to equip the individual with necessary education to attain the goals of education. This goal is attained through the process of teaching and learning in the classroom managed by the teacher who according to Adesina in Igwebuike (2019) is the most important human resources in the school system. The teacher is the heart of Nigeria education system. Whether at primary, secondary or tertiary level, the teacher is and would continue to be both the major indication as well as the major determinant of quality education. Teachers perform managerial functions as they plan teaching activities and materials, coordinate, direct, motivate, counsel in order to bring about effective teaching-learning process in the classroom. They control other resources for

effective instructional delivery to ensure that educational goals are achieved through effective classroom management.

Classroom management according to Ezimoha and Modebelu (2016) refers to some form of coordination that goes on in the classroom. It is the method or techniques adopted to ensure that every learner utilizes available resources with the sole aim of achieving the goals of the school system towards learning. In the study by Bansidhara (2020), classroom management is described as a process of ensuring that classroom lessons run smoothly without disruptive behavior from students compromising the delivery of instruction. From these definitions it can be deduced that all activities put in place by the teacher to ensure effective teaching and learning process in the classroom constitutes classroom management whether in a traditional or digital classroom environment. Such activities among others according to Martins (2020) include; mastery of subject matter, using appropriate teaching methods, well organized lesson presentation that stimulates learning, effective communication guide between teachers and students spelling out standards and expectations on camera use, background noise, input during discussion; teacher encouraging interactive teaching and learning to avoid students feeling of isolation, classroom assessment, maintaining good teacher-student relationship and motivating students. A better performance in a virtual classroom is the product of well managed digital environment. Classroom management emphasizes students' expectations for behavior and learning. Though students are no longer staying in a single room, teachers should take the necessary steps in managing learning and engagement in an online setting to ensure conducive learning environment. Effective classroom management according to Cavanaugh (2017), is crucial in achieving a productive study environment whether remotely or actual classroom. Every class is likely to be made up of students that are above average, and below average; therefore the instructional method to be employed by the teacher should be one in which learners actively participate in the lesson to enable every learner to benefit from the teaching.. Classroom management is important because it increases students' success by creating an orderly learning environment that enhances students' academic skills and competencies as well as their social and emotional development. It also supports the proper execution of curriculum development; developing best teaching practices and putting them into action for the accomplishment of educational goals (Isuku, 2018). But the accomplishment of educational goals in Nigeria in the year 2020 was jeopardized by the outbreak of Covid-19 pandemic which not only led to a fall in economic activities but also led to the closure of schools when physical distancing policies were enforced by the federal government for fear of students contracting the Covid-19 disease that was spreading very fast at the time.

Covid-19 is a disease caused by the new strain of coronavirus. The term COVID is a five letter word that is represented thus 'CO' for Corona, 'VI' for Virus, and 'D' for Disease (Ayago, 2021). The virus is transmitted through direct contact with respiratory droplets of an infected person generated through coughing and sneezing (Recerca- University of Barcelona, 2020). The virus can also be transmitted

when one touches surfaces contaminated with the virus and touching their faces (eyes, mouth and nose). Practicing physical distance by staying away from large crowd is one of the safety precautions amidst others stipulated by World Health Organization (WHO) to fight against the pandemic. Globally, Covid-19 disease has claimed millions of lives notably in China, Italy, United States of America (USA) among others including Nigeria which infection has claimed up to 2000 lives so far (UNESCO 2020). Covid-19 pandemic necessitated education being carried out in technology driven environment to avoid teachers and students gathering together in a single place which increases the risk of transmitting and spreading of the infection. Hence the Covid-19 pandemic has made education system worldwide to find alternative to face to face instruction making teachers and students adopt digital/online teaching and learning using educational technology.

Educational technology could be understood as a science of techniques, methods and media through which educational goals could be attained (Kumar, 2012). According to Okpara (2015) educational technology is defined as a complex integrated process involving people, procedures, ideas, devices and organization for analyzing problems and devising, implementing, evaluating and managing solutions to those problems involved in all aspects of human learning. For this study, educational technology encompasses the systematic application of people, ideas, materials and equipment to the solutions of educational process. Educational technology consists of three main technologies namely; computer technology, communication technology and information management technology. These technologies are applied for processing, exchanging and managing data, information and knowledge (Moluayonge, 2020). Educational technology tools according to Okpara (2015), include; Instructional Power Point, Microsoft Word, Microsoft Excel, SPSS, Online Networking Sites (Youtube, Facebook, Whatsapp, Twitter) Google meet, Zoom, Video tape, close circuit television, Google group, Google classroom, projectors, pear deck, video conferencing, desktops flipped learning electronic whiteboards, webcam among others. As mentioned earlier, the impact of Covid-19 led to total lockdown of most human activities including schools as experienced on 29th March, 2020. The resultant disruption exacerbate already existing disparities within education system and other aspects of the lives of the most vulnerable and marginalized children and their families. Schools provide fundamental learning and serve equally as centers of social activity and human interaction. When schools close as a result of Covid-19 pandemic, there will be interruption in learning and children and youths are deprived opportunity for intellectual growth and development. Recently, another wave of Covid-19 called Covid-19 Delta which is more dangerous than the first wave is ravaging Lagos and Ogun state, and if not properly handled may lead to another lockdown in Nigeria. Until effective vaccines or therapeutics for coronavirus becomes available, it is likely that schooling may continue to be disrupted or schools forced to adopt blended models to guarantee physical distancing. Classroom management can be one of the hardest parts of teaching. It is believed that the use of educational technology would

go a long way in enhancing classroom management. It is against this backdrop that the researcher's interest was aroused to examine the use of educational technology in enhancing teachers' classroom management in colleges of education in South-East, Nigeria in the era of Covid-19.

The purpose of the study is to examine the use of educational technology in enhancing teachers' classroom management in the era of Covid-19 in secondary schools in colleges of education, South-East Nigeria. Specifically the study sought to:

1. find the extent use of educational technology enhances teachers' classroom management.
2. ascertain the constraints to the use of educational technology in classroom management.

Research Questions

The following research questions guided the study.

1. To what extent does educational technology enhance teacher's classroom management?
2. What are the constraints to the use of educational technology in classroom management?

Research Hypotheses

Two null hypotheses were formulated for the study and were tested at .05 level of significance.

1. There is no significant difference between the mean ratings of teachers and students on the extent use of educational technology enhances teacher's classroom management.
2. There is no significance difference between the mean ratings of teachers and students on the constraint to the use of educational technology in classroom management.

Methodology

Descriptive survey research design was adopted for the study. The population of the study comprised of all the teachers and students of federal colleges of education in South East Nigeria. Sample of 20 teachers and 200 students were drawn from the five federal colleges of education in the South-East Nigeria using simple random sampling technique. An instrument developed by the researcher titled "Educational Technology and Classroom Management" (ETCM) was used to collect data.

The questionnaire has two clusters (A and B) containing 7 and 8 items respectively which sought information on each of the two research questions. The items were structured on 4-point rating scale response style of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE) for cluster 1, and Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) for cluster 2. All

items were weighed 4, 3, 2 and 1 respectively. The instrument was validated by three experts; two from department of educational management and one from measurement and evaluation. Reliability of the instrument was estimated using Cronbach Alpha which yielded reliability coefficient of 0.79 and 0.74 for clusters 1 and 2 respectively. Two hundred and twenty copies of questionnaire were administered by the researcher and five research assistants. The instrument which recorded 100% return rate was analyzed using mean and standard deviation for the research questions and t-test for hypotheses at .05 level of significance. Precisely, real limit of numbers were employed to answer research questions. Any item within a mean of 3.50 – 4.00 = VHE; 2.50 – 3.49 = HE; 1.50 – 2.49 = LE; and 1.00 – 1.49 = VLE. The null hypothesis was accepted where significant P – value was greater than alpha value of .05 level of significance otherwise the null hypothesis was rejected.

Results

Research Question One: To what extent does educational technology enhance teacher's classroom management?

Table 1: Mean and standard deviation on the extent educational technology enhance teacher's classroom management.

S/N	Item statement	X	SD	Remark
1	Provides support for the teacher to prepare adequately for lesson delivery	2.87	.88	High Extent
2	Increases teachers mastery of subject matter	2.78	.78	High Extent
3	Provides greater opportunity for communication and collaboration between teachers and students, students and fellow students	2.84	.82	High Extent
4	Offers the opportunity of taking care of wide range of students	2.94	.70	High Extent
5	Provides teachers and students the opportunity to access reliable and valid information and knowledge	2.81	.67	High Extent
6	Provides efficiency in teachers evaluation of students	2.68	.78	High Extent
7	Offers the opportunity for more student centered teaching	2.94	.89	High Extent
	Pouled mean	2.84	.79	High Extent

Data in Table 1 above shows that the cluster mean for all the 7 items is 2.84 which are within the real limit of 2.50 – 3.49. This indicates that educational technology enhances teacher's classroom management to a high extent. The cluster standard deviation value of all the 7 items is .78 which indicates the responses of the respondents are close to the mean and one another.

Hypothesis One: There is no significant difference between the mean ratings of teachers and students on the extent use of educational technology enhance teachers classroom management.

Table 2: t-test analysis of teachers' and students' responses on the use of educational technology to enhance teachers classroom management.

Group	N	?	SD	df	t-cal	p-value	Remark
Teachers	20	6.01	1.06	218	1.29	.10	NS
Students	200	5.71	1.16				

Table 2 shows a p-value of .25 which is greater than the alpha value of .05. This indicates that there is no significant difference between the mean ratings of the responses of teachers and students on the extent educational technology enhance teachers' classroom management. Therefore, the hypothesis was not rejected.

Research Question Two: What are the constraints to the use of educational technology in classroom management?

Table 3; Mean and standard deviation on the constraints to the use of educational technology in classroom management.

S/N	Item statement	\bar{x}	SD	Remark
1	Poor internet connectivity	2.83	.59	Agreed
2	Lack of proficiency in handling technological equipment	2.68	.76	Agreed
3	No steady power supply	2.77	.89	Agreed
4	Insufficient fund for data subscription	2.76	.69	Agreed
5	High cost of technology and maintenance of devices	2.74	.68	Agreed
6	Challenge of technical problems	2.67	.69	Agreed
7	Students have less opportunity for acquisition of practical skills	2.92	.66	Agreed
8	Limits teachers personal support for weaker students	2.58	.85	Agreed
	Pooled mean	2.74	.72	Agreed

Data in table 2 above depicts that the cluster mean for all the 6 items is 2.74 which is within the real limit of 2.50 – 3.49. This indicates that respondents agree with the item statements as constraints to the use of educational technology in classroom management. The cluster standard deviation of all the 8 items is .72 which indicates that the responses of the respondents are close to the mean and one another.

Hypothesis Two: There is no significant difference between the mean ratings of teachers and students on the constraints to the use of educational technology in classroom management.

Table 4: t-test Analysis of teachers and diseases on constraints to the use of educational technology in classroom management.

Group	N	?	SD	df	t-cal	P-value	Remark
Teachers	20	6.34	1.08	218	1.13	.25	NS
Students	200	6.17	.66				

Data in table 4 above reveal a P-value of .25 which is greater than .05 alpha value. This implies that the null hypothesis stated was accepted. Therefore, there is no significant difference between the mean ratings of teachers on students in the constraints to the use of educational technology in classroom management.

Discussion of Findings:

It was found from the study in Table 1 that educational technology, to a high extent enhances teachers' classroom management. Besides, there is no significant difference between the mean ratings of the responses of teachers and students on the extent educational technology enhance classroom management. This means the result is valid. This result is in line with Bansidhara (2020) who reported that educational technology enable teachers as well as students access reliable and valid information and knowledge that could enhance teaching and learning. Through internet the teacher can browse and get more information on the topic he wants to teach. Students also get more information to buttress what the teacher teaches. In the same vein, Moluayonge (2020) stated that with educational technology, various media is available for teachers to conveniently handle large class of students physically spaced apart. More learners can be educated in lesser time through radio and television to make lesson attainable. Even video tape can be used to tape an interesting and important lesson to get to a large group of people at the same time in different locations to avoid physical contact. The findings of this study corroborate the study by Kumar (2012) who observed that Google classroom, which is a learning management system, fosters collaboration and communication between teachers and students, and among students themselves. This is an ideal educational technology device that is used to create class discussion forum. It is easy to navigate, allows

quick feedback through comment section that facilitates group discussion. In corroboration to Kumar, Kado, Dem and Yonten (2020) reiterated that through video conferencing, interactions with other students can bring students together so that students can benefit from them. So educational technology enhances relationship between teachers and students. When teachers effectively integrate technology into subject areas, teacher grows into the roles of adviser, context expert and coach.

Teacher used Zooming, WhatsApp, Youtube and webinars to forward students evaluation and assessment, which on completion by students could be e-mailed to the teacher. Findings from the study in Table 2 revealed constraining factors to the use of educational technology in classroom management. Such limitation include poor internet connectivity, technical problems, lack of proficiency in handling technological equipment, zero acquisition of practical skills, limits teachers personal support for weaker students, poor supply of electricity and insufficient fund for data due to poverty. The findings of this study corroborate the study by Alba-Linero (2020) who noted that virtual laboratories do not engage effective study especially those whose study field is based on practical. The findings of this study also give credence to the study by Cavanaugh (2017) who reported that most teachers lack appropriate training on the use of technology and so are not proficient in using it. Teachers' agreement on lack of money for data subscription, technical problems caused by obsolete equipment, poor internet connectivity and chronic poor electricity supply make it difficult to use educational technology. If training and development of teachers is done, it will help in updating their knowledge, skills and attributes as innovation occur. Aguba in Ugwuanyi (2016) reiterated that a worker that is bereft of new ideas has little or nothing to offer to the organization he works.

Conclusion

The Federal Government in late trimester of 2020 halted academic activities by closing schools to curb the spread of Covid-19 pandemic ravaging the world. To ensure continuity in education, many schools adopted some sort of virtual classes using educational technology in classroom management. It was discovered that educational technology to a high extent enhanced teachers classroom management as various educational technology devices were used to increase mastery of subject matter for efficient lesson delivery to a wide range of students physically spaced apart or separated. This shows that classroom management is not just about avoiding students' disruptive behavior but about creating an environment that enables students to focus on learning and achieve the goals of education. Technology is a major factor influencing education today. Teachers are expected to use it to enhance education of their students though there are some constraints to its effective use of these educational technologies such as poor electricity supply and most teachers lack competence and skills in the use of modern educational technology.

Recommendations

1. Educational technology should constitute an integral course offered by all teacher interns; seminar and workshops be organized for the training and retraining of new and old teachers to update their knowledge in the use of this innovative teaching to ensure continuity and flexibility in teaching – learning delivery which is the essence of classroom management.
2. Government should gradually integrate educational technology as new innovative way of digital teaching and learning to minimize the crowd found in most classrooms to avoid the spread of Covid-19.
3. Government should emulate most universities that have internet link with many sites which lecturers and students use with little or no data; and provide free access with reliable and accessible internet service to all schools.

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