

ACCESSIBILITY AND UTILIZATION OF SMART BOARDS BY ECONOMICS EDUCATION LECTURERS FOR EFFECTIVE INSTRUCTIONAL DELIVERY IN UNIVERSITIES IN SOUTH-EAST, NIGERIA

BY

¹ Azu, Ukpai Dick

ukpaiazu@gmail.com,

² Dr. Oleabhiele, Eric Oziegbe

Ivyese1414@gmail.com.

&

³ Dr. Maxwell, O .Ede

maxwellokudili@gmail.com.

¹⁻³ Department of Agricultural and Vocational Education, Michael Okpara University of Agriculture, Umudike.

Abstract

The study systematically investigated the extent of Accessibility and Utilization of Smart Boards by Economics Education Lecturers for Effective Instructional Delivery in Universities in South-East, Nigeria. The study adopted a descriptive survey research design. The study formulated two purposes of study, two research questions and corresponding two hypotheses. The population of the study was 61 Economics Education lecturers drawn from the nine public universities that offer Economics Education in South-East, Nigeria. The study adopted a census sampling technique. The instrument for data collection was a researcher made structured questionnaire titled "Accessibility and Utilization of Digital Resources Questionnaire (AUDRQ)". The instrument was validated by three experts one from Measurement and evaluation unit in the department of Science Education and two from Agricultural and Vocational Education all from Michael Okpara University of Agriculture, Umudike. The reliability of the instrument was obtained using Cronbach alpha estimate (r) that produced a coefficient of .83. The research questions were answered using mean and standard deviation while the hypotheses were tested using t-test statistic. The finding of the study revealed among others that the accessibility of Smart boards by Economics education lecturers is of a high extent while the corresponding hypothesis depicted no significant difference in the mean opinion of male and female Economics education lecturers on the utilization of Smart boards. It was recommended among others that universities should provide Smart boards in lecture halls to promote an engaging teaching and learning experience. Lecturers should be adequately trained and mandated to effectively utilize Smart boards to foster effective instructional delivery

Keywords: Digital Resources, Digital Resources Accessibility, Digital Resources Utilization, Smart boards, Economics Education

Introduction

The vortex of digital revolution cannot be over emphasized based on the fact that almost every critical sector of human endeavour is getting digitized. Every known human profession today across the globe is adapting and adopting digital technology including the teaching and learning of Economics Education. Digital resources are no longer strange in any profession in our contemporary society. This is based on the fact that it has gained prominence and found expression across all known human endeavour.

The study of Economics is obviously sacrosanct in relation to the steady growth and development of every economy (Adu & Zondo 2024). The knowledge gained by an individual through the learning of Economics is instrumental for the person's rational behavioural pattern that helps in fostering financial literacy (Zaki, 2022). However, no nation has ever achieved a comprehensive growth that cuts across all the critical sectors of the economy devoid of a perfectly and a well-articulated economic development plan that serves as a blue-print as well as a road map for an exponential growth (Kim, 2019).

Economics is a subject that is studied at the senior secondary school level as an elective subject and it is also studied at the tertiary institutions as a professional discipline (Ede, Oleabiele & Modebelu, 2016). Economics as a subject is deliberately tailored in a way that the learners will be consciously equipped with sound know-how and skills as it concerns the workings of the economy (Onuoha, 2019). Economics as an independent field of study is very expedient for the socio-economic development of man and his immediate environment (Osuchukwu & Wagwu, 2020). More so, for Economics as a subject to be effectively taught, there must be trained professionals who must have undergone through the esoteric pedagogy in the rudiment of Economics Education (Ndukwe & Larry, 2023).

Economics Education is a programme of study designed systematically in such a manner that will perfectly equip individuals who will stand comfortably to teach Economics across every level of educational arrangement (Ali, 2020). Furthermore, Economics Education is a well packaged learning process whereby intending Economics teachers are consciously exposed to the inherent pedagogical rudiments associated with the teaching and learning of Economics (Al-Iraqi, 2022). However, from the foregoing, the researcher infers that Economics Education is an academic programme that takes students through the esoteric journey of mastering the pedagogy and fundamental rudiments in relation to the teaching and learning of Economics. Meanwhile, the professionals teaching Economics Education at the tertiary Education level are called Economics Education Lecturers.

Economics Education lecturer is a person who is professionally trained on how best to teach students the pedagogies of Economics (Oyewo & Akintunde, 2022). Economics Education lecturer is that trained researcher and educator who must have acquired some post-graduate certifications with some publications in the relevant area (Kouser & Majid, 2021). Economics Education lecturer is that more knowledgeable person who teaches Economics Education students some of the Education courses, exposes them to micro-teaching, takes them through teaching practice and supervises their projects (Pete & Soko, 2020). Owing to the few definitions of scholars cited above, the researcher deduced that Economics Education lecturer is that intellectual resource person who majors mainly in instructional delivery and research in

the domain of Economics Education. However, for the Economics Education lecturer to be effective in the discharge of his obligations in today's dynamic society, the said lecturer must have access and also the skill to utilize digital resources such as Smart boards. Based on the foregoing in relation to the manner the whole world is getting digitized across every sector, there is need therefore, to integrate digital resources into the teaching of Economics Education (Idika *et al*, 2021).

The vortex of digital technologies has caused a significant paradigm deviation in every sector of the global configuration thereby changing the narratives in relation to instructional delivery to the contemporary digital reality (Adetoro & Ogundele, 2022). The proliferation of digital technologies and its recorded importance in achieving effective instructional delivery has warranted its utilization as a supplement to the conventional instructional delivery strategy (Ajegbelen, 2020). Meanwhile, based on the nature of proliferation of digital resources, instructors no longer use the traditional approach alone but adopt the digital resources such as Smart boards for effective instructional delivery.

Smart board is an expression of a smart class which is the implementation of internet of things in the domain of education. However, internet of things is a connection of physical objects linked to the internet (Aseery, 2024). Smart board is an interactive white board that is connected to the internet with sensitive touch screen features that help educators to establish an engaging and interactive teaching-learning arrangement (Major & McDonald, 2021). Smart board is a big interactive screen with high sensitivity to touches that blends a computer and projector to establish an engaging digital board teaching and learning and also for business organizations (Boozier jr & Simon, 2020). Smart board is very sacrosanct when it comes to teaching; this is justified based on the fact that it facilitates the fostering of a dynamic, collaborative as well as an interactive learning environment. From the few definitions of scholars, the researcher deduced that Smart board is a digital resource that integrates touch and projection technology by permitting teachers and learners to interface directly with learning experience using the instrument of touch screen. Unfortunately, irrespective of the recorded importance associated with Smart boards in relation to effective instructional delivery, Economics Education lecturers still deliver instruction in the conventional way hence the reason that necessitated this study which is to determine the extent of accessibility and utilization of Smart boards by Economics Education lecturers for effective instructional delivery in universities in South-East, Nigeria. Specifically, the study sought to:

1. Determine the extent of accessibility of Smart boards by Economics education lecturers enhances effective instructional delivery in universities.
 2. ascertain the extent of utilization of Smart boards by Economics education lecturers for the enhancement of effective instructional delivery in universities.
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1. What extent does accessibility of Smart boards by Economics Education lecturers enhance effective instructional delivery in universities?
 2. What extent does utilization of Smart Boards by Economics Education lecturers enhance effective instructional delivery in universities?

HO₁: there is no significant difference between the mean rating scores of male and female Economics education lecturers on the extent of accessibility of Smart boards for effective instructional delivery in universities.

HO₂: there is no significant difference between the mean rating scores of male and female Economics education lecturers on the extent of utilization of Smart boards for effective instructional delivery in universities.

Methodology

This study investigated the Accessibility and utilization of Smart boards by Economics education lecturers for effective instructional delivery in universities in South-east, Nigeria. The study adopted a descriptive survey research design. According to Alloy (2019), descriptive survey research design is apt for a study that is only poised to describe an observed phenomenon. The study was conducted in South-east geo-political zone of Nigeria. The reason for chosen South-east geo-political zone is because it has eight public universities that offer Economics education programme at all levels and have contemporary digital resources such as Smart boards with digital competent Economics education lecturers. The population of the study was all the 61 Economics education lecturers that comprised of 43 males and 18 female Economics Education lecturers. Since the population was manageable, the entire population was used for the study through the census sampling technique, thereby ensuring adequate representation of all lecturers and eliminating sampling error

A researcher-made structured questionnaire titled; *Accessibility and Utilization of Smart Boards by Economics Education Lecturers for Instructional Delivery Questionnaire (AUSBEELIDQ)*, was used for the study. The AUSBEELIDQ contained 14 items distributed across two clusters: 7 items measuring Accessibility and 7 items measuring Utilization of Smart Boards. All items were rated on a four-point scale of Very High Extent, High Extent, Low Extent, and Very Low Extent. The instrument was validated by three experts, two in Economics Education and one in Measurement and Evaluation from Michael Okpara University of Agriculture, Umudike. Their suggestions were incorporated before the final copies were produced.

A trial test was conducted with 8 Economics Education lecturers in Rivers State who were not part of the study population. Cronbach alpha statistic was used to determine the internal consistency of the instrument which produced a coefficient of 0.83. Mean and standard deviation was used to answer the research questions whereas t-test statistic was used to test the hypotheses at 0.05 level of significance. The research questions were answered using real limit numbers Very High Extent (VHE) 3.50-4.00, High Extent (HE) = 2.50-3.49, Low Extent (LE) = 1.50-2.49 and Very Low Extent (VLE) = 0.00-1.49

Results

Research question one

To what extent does accessibility of Smart boards by Economics Education lecturers enhances effective instructional delivery in universities?

Table 1.1: Mean and standard deviation on the extent of accessibility of Smart boards by Economics Education lecturers for effective instructional delivery in universities

S/N	Item statements	$\bar{X}_1$	SD ₁	$\bar{X}_2$	SD ₂	X _G	SD _G	Remarks
1	I access the interactive simulation of Smart Boards during instructional delivery	3.17	.76	3.20	.67	3.19	.72	HE
2	I access the Smart Boards' personalized component from any location while delivering instructions	3.12	.82	3.11	.78	3.12	.80	HE
3	I access Smart Boards and the conventional board while delivering my instruction	3.09	.76	2.89	.69	2.99	.73	HE
4	I access Smart Boards due to its user-friendly interface during instructional delivery	3.21	.65	3.18	.68	3.20	.67	HE
5	I access Smart Boards when I want to manage my classroom to enhance effective instructional delivery	2.98	.92	3.01	.87	2.99	.90	HE
6	I access Smart Board when I want to deliver instruction synchronously	2.76	.87	2.88	.83	2.82	.85	HE
7	I access Smart Board to foster the active participation of my learners during instructional delivery	2.98	.75	2.87	.91	2.93	.83	HE
Cluster mean		3.04	.79	3.02	.78	3.03	.79	HE

XG= grand mean SDG= grand standard deviation

Table 1.1 shows the mean responses of male and female Economics lecturers on the accessibility of Smart boards by Economics Education lecturers for effective instructional delivery in universities. Data on the Table 1.1 showed a cluster mean of 3.04 and 3.02 with a grand mean of 3.03 which fall within the real limit of 2.50-3.49 indicating that the accessibility of Smart board by Economics Education lecturers for effective instructional delivery in universities is to a high extent. Similarly, the standard deviation scores of .79 and .78 with the grand standard deviation of .79 indicated that there is homogeneity in the responses of the

respondents that accessibility of Smart boards by Economics Education lecturers enhances effective instructional delivery to a high extent.

Hypothesis one

There is no significant difference between the mean rating scores of male and female Economics Education lecturers on the extent of accessibility of Smart boards for effective instructional delivery in universities.

Table 1.2 t-test Analysis of the significant difference between the mean rating scores of male and female Economics education lecturers on the extent of accessibility of Smart boards for effective instructional delivery in universities

Group	N	$\bar{X}$	SD	DF	t-cal	t-criti	Decision
Male	43	3.04	.79	59	0.25	2.021	NS
Female	18	3.02	.78				

The data in table 1.2 depicted that the calculated t-value is 0.25 at 0.05 level of significant with a degree of freedom of 40 which is less than the t- critical value of 2.021. However, since the calculated value is less than the t-critical value, the null hypothesis that there is no significant difference between the mean rating scores of male and female Economics Education lecturers on the extent of accessibility of Smart boards for effective instructional delivery in universities was not rejected.

Research question two

To what extent does utilization of Smart boards by Economics education lecturers enhance effective instructional delivery in universities?

Table 2.1: Mean and standard deviation on the extent of utilization of Smart boards by Economics education lecturers for effective instructional delivery in universities.

S/N	Item statements	$\bar{X}_1$	SD ₁	$\bar{X}_2$	SD ₂	$\bar{X}_G$	SD _G	Remarks
8	I use the interactive features of Smart boards to provide concrete learning experience during instructional delivery	3.19	.65	3.28	.70	3.24	.68	HE
9	I use Smart boards to create a collaborative learning condition while delivering my instructions	3.46	.61	3.42	.65	3.46	.63	HE
10	I use Smart boards to provide a convenient lesson schedule	3.44	.69	3.47	.65	3.46	.67	HE

for my students during instructional delivery

11	I use Smart boards to provide feedback to my learners during instructional delivery	3.48	.63	3.45	.65	3.47	.64	HE
12	I use Smart boards to demonstrate concepts to the students during instructional delivery	3.58	.66	3.55	.64	3.57	.65	HE
13	I utilize Smart boards to create room for asynchronous learning during instructional delivery	3.12	.69	3.10	.67	3.11	.68	HE
14	I use Smart boards to also foster synchronous learning for effective instructional delivery	3.62	.56	3.65	.61	3.64	.59	HE
Cluster mean		3.41	.64	3.42	.65	3.42	.65	HE

XG= grand mean SDG= grand standard deviation

Table 2.1 shows the mean responses of male and female Economics education Lecturers on the extent of utilization of Smart boards by Economics Education lecturers for effective instructional delivery in universities. Data in Table 2.1 with a cluster mean of 3.41 and 3.42 as well as a grand mean of 3.42 which fall within the real limit of 2.50-3.49 indicating that the utilization of Smart boards by Economics Education lecturers for effective instructional delivery in universities is to a high extent. Similarly, the standard deviation scores of .64 and .65 with the grand standard deviation of .65 from the respondents indicated that the variation in their responses that the utilization of Smart board enhances effective instructional delivery in universities to a high extent.

Hypothesis Two

There is no significant difference between the mean rating scores of male and female Economics education lecturers on the extent of utilization of Smart boards for effective instructional delivery in universities.

Table 2.2: t-test Analysis of the significant difference between the mean rating scores of male and female Economics education lecturers on the extent of utilization of Smart boards for effective instructional delivery in universities.

Group	N	$\bar{X}$	SD	DF	t-cal	t-criti	Decision
Male	43	3.41	.64	59	-0.048	2.021	NS
Female	18	3.42	.65				

The data in Table 2.2 showed that the calculated t-value is -0.048 at 0.05 level of significant with a degree of freedom of 40 which is less than the t- critical value of 2.021. Since the calculated value is less than the t-critical value, the null hypothesis that there is no significant difference between the mean rating scores of male and female Economics education lecturers on the extent of utilization of Smart boards for effective instructional delivery in universities was not rejected.

Discussion of findings

The study revealed that the accessibility of Smart boards by Economics education lecturers for effective instructional delivery in universities is to a high extent while the corresponding hypothesis affirmed that there is no significant difference between the mean rating scores of male and female Economics education lectures on the extent of accessibility of Smart boards for effective instructional delivery. More so, the study further revealed that the respondents are in agreement that utilization of Smart boards by Economics education lecturers for effective instructional delivery is to a high extent while the corresponding hypothesis affirmed that there is no significant difference in the mean rating scores of male and female Economics education lecturers on the extent of utilization of Smart boards for effective instructional delivery in universities.

Conclusion

The study established that the accessibility and utilization of digital instructional technologies (Smart boards) are expedient for the enhancement of effective instructional delivery, promoting students' academic engagement, as well as propelling better learning experiences and outcomes in Economics education in universities. The researcher concluded from the findings of this study that; accessibility of digital resources is not a major problem truncating effective instructional delivery but the perception and competence of the lecturers to utilize these digital resources. The effective accessibility and utilization of digital instructional technologies such as Smart boards are essential for improving instructional delivery, enhancing students' academic engagement, and promoting better learning outcomes in Economics education in universities.

Recommendations

Based on the findings of the study, these recommendations were made;

1. Universities should provide Smart boards in lecture halls to promote an engaging teaching and learning experience.

2. Lecturers should be adequately trained and mandated to effectively utilize Smart boards to foster effective instructional delivery.

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