Awareness and Utilization of Technology-Based Instructional Resources (Tbir) among Business Educators in Colleges of Education in Edo and Delta States of Nigeria

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Abstract
The study investigated the level of awareness and utilization of technology-based instructional resources. It employed the survey research design. The population of the study was 116 Business educators. A census of Business educators in five purposively selected colleges of education in Edo and Delta States was taken because there is the availability of Business education programme, and a number of Business educators is of manageable size. To guide the study, three research questions were answered, while two hypotheses were tested at 0.05 level of significance. The instrument used was a questionnaire titled: "Awareness and Utilization of Technology-Based Instructional Resources (r=0.852). Findings revealed that Business educators were not aware of various TBIR for instructional delivery. Similarly, Business educators did not utilize various TBIR for instructional delivery. Finding further revealed that Business educators were not significantly differentiated on awareness and utilization of various TBIR for teaching based on working experience, but there was a significant difference with regard to TBIR utilization between the less experienced and more experienced business educators resolved in favour of the less experienced business educators The study, therefore, recommended that authorities of colleges of education should endeavour to create awareness in their business educators about TBIR for instructional delivery through seminar, workshop and conference

Keywords: Technology-Based Instructional Resources (TBIR), Awareness, Utilization, Business Educators.

Introduction

Technology has become a credible part of human endeavours in present-day society. A teacher's ability to respond to changes and novelty has become a key factor for instructional success. Business educators do not only need to use technology effectively in their teaching, but they also need to guide and direct the students in using the tools to enhance their learning Technology-Based Instructional Resources (TBIR) that business education teachers might be aware of and ought to have skills in utilizing or making use of in teaching business subjects in the classroom and how they can be used to supplement teaching, include Internet, Internet resources – Internet-enabled electronic device, Electronic Mail (e-mail) service, Cloud-based computing Technologies, and social media/Networks Technologies.

Meanwhile, awareness of TBIR by the business educators constitutes an important antecedent to be considered before being required for use. Awareness is knowledge about particular information which can be manifested through a particular behavior (Akpojotor, 2016). Awareness of TBIR by business educators is the ability to know about technology that are potential in their instructional delivery that will bring about, easy retrieval of information, better presentation of information, teaching interactivity among others.

Nevertheless, utilization means using something, especially for practical purposes. The knowledge and skills of the various components of technology-based instructional resources that is practically related and knowledge-based to the extent that when fully utilized enables instructors to bring collectively the technology resources that promote effective teaching. Utilization in this context is how often the TBIR is applied by business educators in colleges of education in their instructional delivery for the purpose of benefit maximization. However, it is presumed that utilization of TBIR by business education teachers may depend on their demographic characteristics such as gender, teaching qualification, working experience, and probably the level of exposure in terms of the training they have received. Demographic variables have been described as major factors that may influence or predict the use of TBIR by individuals. Among the demographic factors that are often cited as having influencing on TBIR utilization are gender, income, level of education, skill and age (**United Nation Development** Programme- UNDP, 2011; Inan & Lowther, 2009).

Technology-based instructional resources are those modern tools for passing knowledge, from teachers to students within the classroom or outside. The use of technology-based instructional resources (TBIR) in teaching Business education courses are expected to provide Business educators with several tracks through which to retrieve knowledge and foster effective teaching. It is expected of Business educators to utilize and guide the students to use these media as a source for their learning in ways that are wise, safe, and productive. Meanwhile, Business education teacher, Business educators, and Teachers will be used interchangeably in this work. TBIR can impact the work of business education teachers in a variety of ways, ranging from gaining easy access to information, greater interest in learning, increase retention of information, better presentation of information, to teaching made interactive as well as knowledge sharing made easy (Shahnawaz & Vikas, 2007).

It can be added that TBIR is considered to have influenced teachers in different ways, depending on the circumstances in which each TBIR is utilized to enrich the learning process for the users or learners. Business education teachers can use such tools to create active learning environments that would encourage students to collaborate, or participate in inquiry-based learning (Abdelraheem & Asan, 2006). Educational institutions must recognize that the world has changed. Employers, teachers, and students have needs that our current

delivery system is not catering for. New ways must be explored to deliver education to our students through numerous TBIR as well as software application tools with potential in education. The teachers are expected to make use of such tools or everything provided by the institution. However, if teachers are not aware of the different TBIR available or what they can do, they will not be able to use them optimally.

Meanwhile, this study is hinged on the technology acceptance theories with specific attention to the technology acceptance model by Fred Davis, (1989). The Technology Acceptance Model (TAM) is an information systems theory model propounded by Davis in 1989. This model suggests that when users are presented with new technology, a number of factors influence their decision about how and when they will use it, especially, its

- Perceived usefulness (PU) - "the degree to which a prospective user believes that using a particular system would enhance his or her job or life performance".
- Perceived ease-of-use (PEOU) - "the degree to which a prospective user believes that using a particular system would be free of effort".

However, from all the empirical studies reviewed the focus was on lecturers' awareness and utilization of instructional media in colleges of education in South- west Nigeria, none has been conducted on awareness and utilization of technology based instructional resources (TBIR) among business educators in colleges of education in Edo and Delta States, Nigeria, thus this is the obvious gap this study filled

Statement of the Problem

Inadequate application of technology in pedagogical practice by business educators seems to be worrisome, despite its potential for change and improvement to higher education. It is observed that not many digital technologies are used in pedagogical practice by business educators in Nigerian colleges of education. However, business educators claim to have adopted TBIR for instructional delivery are not as comprehensive and updated, thereby placing the students at a disadvantage in the labour market, due to the lack of modern-day technological skills required of them by employers of labour. Reiterated in the (NCCE) minimum standard (2008) is that the acquisition of IT proficiency and ability to utilize such expertise has become relevant and ICT imperative, yet colleges of education seem not to have enough requirements for using technology-based instructional resources (TBIR). Fakomogbon, Olarenwaju, and Soetan (2015) conducted a study on lecturers' awareness and utilization of instructional media in the State-owned Colleges of education, South-West Nigeria. The findings of the study revealed that lecturers had moderate awareness of IM, they used media less frequently. However, from the observation of the researcher, there seems to be no clear evidence of an appreciable level of awareness and utilization of TBIR for instructional purposes among business educators in colleges of education. Therefore, it stands to reason to empirically examine the level of awareness and utilization of technology-based instructional resources by business educators for their instructional delivery.

Objectives of the Study

Specifically, the study set out to determine:

1. the level of awareness of TBIR among business educators in colleges of education in Edo and Delta States
2. the level of utilization of TBIR among business educators in Colleges of Education in in Edo and Delta States
3. the influence of business educators' teaching experience on their awareness of TBIR.

Research Questions

The following research questions guided the study.

1. What is the level of awareness of TBIR among business educators in the colleges of education in Edo and Delta States?
2. What is the level of utilization of TBIR among business educators in the Colleges of Education in Edo and Delta States?
3. What is the difference in the awareness of TBIR among business educators based on teaching experience?

Hypotheses

The following null hypotheses were formulated for the study and tested at 0.05 level of significance.

1. There is no significant difference in the mean responses between less experienced and more experienced business educators in their awareness of TBIR for teaching
2. There is no significant difference in the mean responses between less experienced and more experienced business educators in their use of TBIR for teaching

Methods

The study used the descriptive survey research design. The population of the study comprised 116 Business educators, colleges of education in Edo and Delta States. A census of Business educators in five purposively selected colleges of education was taken because of the availability of a Business education programme, and the number of Business educators is of manageable size. A questionnaire titled: "Awareness and utilization of Technology-Based Instructional Resources among business educators questionnaire" "(AUTBIRQ) validated by experts was used for data collection. The section coefficient values are as follows: Awareness 0.715, Utilization 0.819. The overall reliability coefficient value of 0.852 was obtained.

The questionnaire was made up of three sections (A, B & C). Section A was made up of demographic variables of the respondents such as gender, educational qualification, and working

experience. While, Section B contains 15 questionnaire item statements that relate to awareness of TBIR, each item in section B has a five-point Likert response option of Very Much Aware (VHA), Highly Aware (HA), Averagely Aware (AA), Slightly Aware (SA) and Not Aware (NA) with 5, 4, 3, 2, and 1 weight respectively**,** and section C contains 25 questionnaire item statements that relate to the utilization of TBIR, each item in section C has a five-point Likert response options of Very Highly Utilize (VHU), Highly Utilize (HU), Averagely Utilize (AU), Slightly Utilize (SU) and Not Utilize (NU) with 5, 4, 3, 2, and 1 weight respectively**.**

The statistical tools used for data analysis were mean ($\bar{x}$), Standard deviation (SD), t-test, Mean and Standard deviation were used to answer the research questions while t-test statistic was used to test hypotheses at 0.05 level of significance. The remarks for the research questions were based on a weighted aggregate mean of 3.00 such that items with mean values less than 3.00 were considered Not Aware/ Not utilized, otherwise they were considered as Aware/Utilized as well as the real limit of the mean value.

Results

Research Question 1: What is the level of awareness of TBIR among business educators in the colleges of education in Edo and Delta States?

Table 1: Mean, and Standard Deviation on the Level of Awareness of TBIR.

S/N	Item Statement	N	Mean	SD	Remarks
1	Fully aware of pedagogy to be adopted on internet in teaching business subjects	108	1.52	.57	NA
2	Fully aware of the TBIR within the school and external environment that can be used in teaching business subjects	108	1.54	57	NA
3	Knowledge of appropriate internet -enabled electronic devices such as hardware and software for teaching of business subjects	108	1.67	.61	NA
4	Having knowledge of how to surf the internet is the worthwhile skill for teaching business subjects	108	1.58	.60	NA
5	Having knowledge of educational podcasting such as I-Pod/MP3 to upload a complete lecture into a subject website as quickly as possible after the lectures	108	1.53	.60	NA
6	Aware that digital camera can be Used to take important photographs and stored in digital file and make use of it during instructional delivery	108	2.49	.70	NA
7	Knowledge of E-mail service to collaborate with students on a given project	108	1.64	.59	NA
8	Having knowledge of giving academic support to students on assignments and other related information through e-mail	108	2.57	.74	NA
9	Knowledge of e-mail service to aid teaching and encourage learners to learn at their own pace and convenience	108	1.51	.54	NA
10	Knowledge of Cloud computing applications available on the net that support the use of PowerPoint slides (PPT) for teaching activities	108	1.68	.67	NA
11	Awareness about the application of cloud computing to augment the teaching of business subjects	108	1.65	.66	NA
12	Having knowledge to generate updated eBooks and more information from web tools via cloud computing	108	2.63	.71	NA
13	Having knowledge to create a Social network group page to schedule events that relate to lessons for students	108	1.62	.67	NA
14	Having knowledge to engage students in discussion forum on a particular business subject through social network technologies	108	2.49	.69	NA
15	Broad knowledge of Social network group pages to schedule events that relate to lessons for students.	108	2.44	.59	NA
	Aggregate	**108**	**1.90**	**.21**	NA

Note. SD = standard deviation NA = Not Awareness

The data presented in Table 1 reveals the mean, standard deviation of Business educators level of awareness of TBIR. The mean responses of all the 15 items ranged from 1.51 to 2.49 while the values of the standard deviation ranged from .54 to .74 and the aggregate Standard Deviation of .213 with the standard deviation of all the measures (questions) been less than one (1), clearly shows that level of awareness falls below the criterion aggregate mean score of 3.00 set for high level of awareness. From this it can be understood that business educators are not aware of TBIR for teaching, hence this implies low levels of awareness of TBIR for instructional delivery among business educators in College of Education in Edo and Delta States

Research Question 2: What is the level of utilization of TBIR among business educators in the Colleges of Education in Edo and Delta States?

Table 2: Mean, Standard Deviation on the Level of Utilization of TBIR for Teaching

S/N	Item Statements	N	Mean	SD	Remarks
1.	Ability to deliver lecture through the internet	108	1.66	.61	NU
2	Ability to create life web conference (web- quest) and build internet into lesson	108	1.58	.61	NU
3	Ability to create a video conferencing for teaching through internet	108	1.86	.65	NU
4.	Ability to post classroom news, activities and resources through internet	108	1.69	.63	NU
5.	Ability to use internet photos, Videos, and websites to enhance printed materials such textbooks	108	1.71	.55	NU
6.	Ability to use mobile internet devices to access internet and obtain materials for teaching business subject	108	2.56	.65	NU
7.	Ability to use Laptop Computer for teaching	108	1.68	.64	NU
8.	Ability to use Digital Camera	108	2.46	.77	NU
9.	Ability to deliver/prepare lecture through I-Pod or MP3 Player	108	1.64	.59	NU
10.	Ability to exchange e-mail address with Colleagues and students on issues relating to business subject	108	1.70	.70	NU
11.	Ability to communicate assignments to students through e-mail on issues related to the business subject and add attachment to buttress where necessary	108	1.79	.68	NU
12.	Ability to receive completed/solved assignments from students from time to time through e-mail	108	2.62	.64	NU
13.	Ability to receive project topics from students for modification and approval through e-mail	108	1.73	.64	NU
14.	Ability to received and comments on students' projects through mail	108	2.51	.68	NU
15	Ability to communicate class activities to students through the cloud based tools	108	2.43	.62	NU
16.	Ability to organized class for students through zoom application	108	1.79	.70	NU
17.	Ability to manage students projects and presentation through cloud computing	108	2.04	.92	NU
18.	Ability to distribute Power point presentation too large for email on business subject to the student through DropBox	108	1.94	.70	NU
19.	Ability to receive work from students after school hours through cloud application	108	2.06	.84	NU
20.	Ability to share and synchronise notes between students through cloud based tool	108	2.08	.71	NU
21.	Ability to give assignment online and share with students through Google Docs/Google Drive	108	2.28	.77	NU
22.	Ability to use Social networks group pages e.g., facebook, Twitter, LinkedIn, WhatsApp(, e.t.c.) to schedule events that relate to lesson for students	108	2.11	.82	NU
23.	Ability to deliver/prepare lectures through YOU-TUBE	108	2.14	.76	NU
24.	Ability to acquire some tutorials (watching videos and obtaining information) to supplement lessons for students on business subject through YOU-TUBE	108	2.05	.78	NU

Note. SD = standard deviation NU = Not Utilize

The result of data presented in Table 2 reveals the mean, standard deviation of Business educators level of utilization of TBIR. The mean responses on level of utilization range from 1.58 to 2.62; while the values of the standard deviation ranged from .55 to .84 and the aggregate Standard Deviation of .146, with the standard deviation of all the measures (questions) been less than one (1), clearly shows that level of utilization falls below the criterion aggregate mean score of 3.00 set for high level of utilization. From this it can be understood that business educators are not utilized TBIR for instructional delivery, hence this implies low levels of utilization of TBIR for instructional delivery among business educators in the College of Education in Edo and Delta States

Research Question 3: What is the difference in the awareness of TBIR among business educators based on teaching Experience?

Table 3: Mean and Standard Deviation on Level of Awareness of TBIR for Teaching based on Experience

S/N	Item Statement	Work Experience	N	Mean	SD	Remark
1	Fully aware of pedagogy to be adopted on internet in teaching business subjects	Less Experienced	38	1.55	.50	SA
		More Experienced	70	1.50	.61	SA
2	Fully aware of the TBIR within the school and external environment that can be used in teaching business subjects	Less Experienced	38	1.61	.64	SA
		More Experienced	70	1.50	.53	SA
3	Knowledge of appropriate internet enabled electronic device such as hardware and software for teaching of business subjects	Less Experienced	38	1.74	.64	SA
		More Experienced	70	1.63	.59	SA
4	Having knowledge of how to surf the internet is worthwhile skill for teaching business subjects	Less Experienced	38	1.58	.64	SA
		More Experienced	70	1.59	.58	SA
5	Having knowledge of educational podcasting such as I-Pod/MP3 to upload a complete lecture into a subject websites as quickly as possible after the lectures	Less Experienced	38	1.47	.56	SA
		More Experienced	70	1.56	.63	SA
6	Awareness about digital camera to take important photographs and stored in as digital file and make use of it during instructional delivery	Less Experienced	38	2.61	.86	SA
		More Experienced	70	2.43	.60	SA
,	Knowledge of E-mail service to collaborate with students on a given project	Less Experienced	38	1.50	.51	SA
		More Experienced	70	1.71	.62	SA
8	Having knowledge of giving academic support to students on assignment and other related information through e-mail	Less Experienced	38	2.61	.72	SA
		More Experienced	70	2.56	.75	SA
9	Knowledge of e-mail service to aid teaching and encourage learners to learn at their own pace and convenience	Less Experienced	38	1.50	.56	SA
		More Experienced	70	1.51	.53	SA
10	Knowledge of cloud computing application available on the net that support the use of PowerPoint slides (PPT) for teaching activities	Less Experienced	38	1.74	.72	SA
		More Experienced	70	1.64	.64	SA

Note. SD = standard deviation SA = Slightly Aware, NA = Not Aware

Data presented in Table 3 reveals the mean responses of business educators on the level of awareness of TBIR for teaching based on experience. The table shows that the mean response of less experience business educators ranged from 1.47 to 2.63, while the mean responses of more experienced business educators range from 1.50 to 2.63. The aggregate mean responses are 1.92 and 1.89 for less experienced and more experienced business educators respectively. These results depict that the less experienced business educators had a higher mean response in the level of awareness of TBIR for teaching than the more experienced business educators with a mean difference of 0.03. Since, the aggregate mean of 1.92, and 1.89 for less experienced and more experienced business educators respectively with standard deviation scores are below one (1). It is thus proving a slightly differences to the responses on their awareness of TBIR for teaching business subject, however, the aggregate mean is lower than the criterion aggregate mean score of 3.00 set for the high level of awareness of TBIR for teaching. Thus, this signifies that Business educators slightly aware of TBIR for teaching and the less experienced business educators had a higher mean response in the level of awareness of TBIR for teaching than the more experienced business educators in Colleges of education in Edo and Delta States with a mean difference of 0.03

Hypothesis 1: There is no significant difference in the mean responses between less experienced and more experienced business educators in their awareness of TBIR for teaching

Table 4: t-test on the Levels of Awareness of TBIR for Teaching based on Experience

Variable	Work Experience	N	Mean	SD	df	t	P	Decision
Possessed Level of Awareness	Less Experienced	38	1.921	.254	106	.623	.535	Not Significant
	More Experienced	70	1.894	.188				

Note. SD = standard deviation.

Table 4 shows the aggregate mean responses of less experienced (M = 1.921) and more experienced (M = 1.894) business educators on the levels of awareness of TBIR for teaching. The table showed no significant difference (t = .623, df = 106, p> .05) between the less experienced and more experienced business educators on the levels of awareness of TBIR for teaching since the p-value is greater than the alpha value of 0.05. The null hypothesis is therefore accepted. Hence, there is no significant difference between less experienced and more experienced business educators in the mean responses on their levels of awareness of TBIR for teaching.

Hypothesis 2: There is no significant difference in the mean responses between less experienced and more experienced business educators in their use of TBIR for teaching.

Table 5: t-test on the Levels of Utilization of TBIR for teaching based on Experience

Variable	Work Experience	N	Mean	SD	df	t	P	Decision
Possessed Level of Utilization	Less Experienced	38	2.050	.149	106	2.399	.018	Significant
	More Experienced	70	1.986	.139				

Note. SD = standard deviation.

Data presented in Table 5 show the aggregate mean responses of Less Experienced (M = 2.050) and More Experienced (M = 1.986) business educators on the levels of utilization of TBIR for teaching. The table showed a significant difference (t = 2.399, df = 106, p< .05) between the less experienced and more experienced business educators on the levels of utilization of TBIR for teaching since the p-value is less than the alpha value of 0.05. The null hypothesis is therefore rejected. Hence, there is a significant difference between the less experienced and the more experienced business educators in the mean responses on their levels of utilization of TBIR for teaching.

Discussion of Findings

The study investigated awareness and utilization of technology-based instructional resources among business educators in colleges of education in Edo and Delta states. The finding of the study revealed that business educators are not aware of TBIR for teaching. All the I5 items of the TBIR questionnaire used to measure this area revealed a mean score below the benchmark average mean and thus implied that Business educators are not aware of TBIR for teaching in Colleges of Education in Edo and Delta States. This finding is in disparity with that of Christiana and Chika (2016) who reported that business educators in tertiary

institutions in South-East Nigeria were aware of web 2.0 to a high extent. Similarly, the findings of the study are in disparity with that of Ajise and Fagbola (2013) who reported a high level of awareness of web 2.0 by lecturers in tertiary institutions in Nigeria, Web 2.0 technologies which business educators are aware of most include Facebook, wikis, Twitters, WhatsApp and online discussion forum.

The finding further indicated that business educators are not utilizing TBIR for their instructional delivery. All the 25 items of the TBIR questionnaire used to measure this area shows a mean score below the benchmark average mean and thus implied that Business educators are not utilized TBIR for their instructional delivery in Colleges of Education in Edo and Delta States. This finding is in agreement with that of Onasanya, Shehu, Ogunlade and Adefuye (2011) who reported that the level of utilization of ICT resources by science teachers examined was found to be very low. Also, the finding is in agreement with that of Fakomogbon, Olanrewaju, and Soetan (2015) who reported that lecturers used Instructional media less frequently.

The finding in respect of the awareness of TBIR for teaching based on experience revealed that all the I5 items of the questionnaire used to measure this area showed slightly awareness for both less experienced and more experienced respondents on awareness of TBIR for teaching. This signifies that Business educators are slightly aware of TBIR for teaching and the less experienced business educators had a higher mean response in the awareness of TBIR for teaching than the more experienced business educators in Edo and Delta State Colleges of education with a mean difference of 0.03. The findings of the study are in disparity with that of Fakomogbon, Olanrewaju, and Soetan (2015) who found that lecturers had moderate awareness of instructional Media.

The finding in respect of hypothesis 1 statistically showed that there is no significant difference in the mean responses between less experienced and more experienced business educators on awareness of TBIR for teaching based on experience. This implies that both categories of Business educators are almost the same but with less experienced business educators having a slightly higher mean response in the awareness of TBIR for teaching than the more experienced business educators. This may be as a result of the fact that the younger business educators are more familiar with the technology. Furthermore, the finding on awareness of TBIR for teaching based on experience agrees with the earlier findings of Afolabi, Adeyanju and Adedapo (2010); Fakomogbon, Olanrewaju, and Soetan (2015).

Equally, the finding in respect of hypothesis 2 statistically revealed that there is a significant difference in the mean responses between the less experienced and the more experienced business educators in their use of TBIR for teaching. This implies that the use of various TBIR for teaching amongst less experienced is different from those of more experienced Business educators. This may be due to the fact that the younger business educators are more familiar with technology usage. The study proves that there is demographic differentiation in the utilization of TBIR in favour of less experienced business educators in Colleges of education in Edo and Delta States. However, the findings of this study are in agreement with that of Ismail (2015), who reported that teachers with the least amount of experience have grown up in a technology-right society, and they must have likely used it while they were in school.

Conclusion

Based on the findings of this study, the study concluded that business educators awareness of the benefits of TBIR can motivate them to appreciate, embrace, acquire and use technologies in their teaching. From the outcome of this study it can concluded that administrators of colleges of education would see the need for capacity building for their teachers to increase their skill and to make better decisions on the efficient and effective utilization of TBIR resources for teaching business subjects as well as creating conducive atmosphere for business educators to adopt TBIR in their instructional delivery.

Recommendations

In view of the foregoing and the findings from this study, the following recommendations are considered necessary

- Authorities of colleges of education should endeavour to create awareness for their business educators to adopt TBIR for instructional delivery to bring about effective e-teaching and learning through Seminar, workshop and Conference.
- Efforts should be made by management of colleges of education to educate business educators on the use of TBIR to improve teaching and learning activities through training and retraining programme.
- Business educators both less experienced and more experienced should be provided opportunities to sharpen their skills in the use of TBIR in their teaching pedagogy by colleges of education authorities.
- Experienced business educators should be given more training in the use of TBIR to upgrade their skills for pedagogical purposes by authorities of colleges of education.

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