TEACHERS' DIGITAL COMPETENCE DEVELOPMENT AND UTILIZATION OF NEW TECHNOLOGY IN EVALUATING BUSINESS EDUCATION IN TERTIARY INSTITUTION IN RIVERS STATE

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Abstract

This study investigated the relationship between teachers' digital competence and utilization of new technology in evaluating Business Education courses in Tertiary Institution in Rivers State. One specific objectives, one research questions and one hypothesis guided the study. Descriptive-Correlational research design was adopted for the study. The population and sample of the study consisted of 116 Business Education Lecturers in four tertiary institutions offering Business Education as an undergraduate programme in Rivers State during the 2023/2024 academic session. Structured designed questionnaire was used for data collection. The face validated questionnaire was subjected to reliability testing using Cronbach Alpha coefficient 0.84 for all the items. Data collected for this study were analysed Using Mean, Standard Deviation and Pearson Product Moment Correlation (PPMC). The results revealed that to low extent, lecturers possessed digital competencies required for automated grading and electronic peer review. The results also revealed that some lecturers are using new technology for evaluating business education in tertiary institutions in Rivers State. The results also revealed that there is positive relationship between extent of teacher's digital competence and the extent of utilization of new technology in evaluating Business Education Courses in Tertiary Institutions. Based on the findings, it was recommended among others, that Business education administrators in tertiary institutions in Rivers State should organize train-the-trainers workshop for business education lecturers, and ensure lecturers are empowered with necessary new technologies software for evaluating business education courses in tertiary institutions in Rivers State.

Introduction

In digital era, digital competencies development among teachers should be an offshoot of their general professional development. This is based on the fact that professional development is refers to a continuous process through which employers enhance the knowledge, skills and competence of employees to improve their effectiveness in their current roles and prepare them for future responsibilities. Relating to this belief of what professional development is, Hobbs (2017) explained that teacher's digital competence development has to do with programme designed in order to build the competences of existing teaching staff with the view of boosting their performance and attainment of specific objectives using digital technologies. Similarly, Galaczi, et al (2018) described teacher's digital competence development as the process used to introduce teachers to new sets of skills or tools essential in the attainment of educational goals using digital platforms. Consequently, it means that for teachers to always be capable of delivering educational offerings using digital technological tools, they need to develop the appropriate digital competences from time to time.

Digital competence required to be developed by teachers cut across vast number of abilities aimed at improving their positive attitude and culture of technological integration in pedagogical practices. Therefore, the expectation of teachers possession of the required digital competencies is that they will utilized them to ensure the designing and utilizing instructions driven using digital technology. Consequently, the paradigm shift to technological driven teaching and learning should be guaranteed.

At this point, it is essential to emphasize those business educators, who are responsible for utilizing their technical expertise and pedagogical knowledge to design and deliver technology-driven instruction, play a vital role in developing students' digital skills. Consequently, they must continuously develop the digital competencies necessary to meet the demands of effective teaching and learning in the 21st century. This is

because Business Educators have to move with the trend of time by adapting and utilizing digital resources to facilitate learning and assist their students to develop the required skills for employability. Teachers are expected to guide, support and assist students to learn, they must possess the digital competencies required to use digital resources. Ottestad, et al (2014) opined that the importance of developing teachers' digital competence is to enable them drive the development of students' digital competence collaboratively as the end product of the learning process. Similarly, De la Calle, et al (2021) noted that to expose students to digital content, teachers need to master certain spectrum of digital competencies that would enable them to exhibit leadership in the use of digital resources within the classroom to teach.

According to Redecker (2017), to create digital content, collaborate and communicate with others in order to solve problems relating to teaching and learning, teachers need to acquire digital competencies essential for their responsibilities. Redecker also noted that the need for teachers to develop the appropriate digital related skills gave birth to the European Framework of Digital Competence for Educators and the expectation is that those interested to be teachers of the 21st century should develop digital competences in order to meet the training needs of the digital world. Emesoba and Nweke (2016) posited that there is need for business education lecturers to be frequently train and retrained in the use of digital tools (Database Management, Microsoft Excel, Webpage design, PowerPoint, Multimedia Projector, Videoconferencing, Fax machines, Telex machines, You-tube,) to enable them utilize these tools as resources for developing students' skills for future endeavour. Ranieri and Bruni (2018) identified three areas of digital competencies in teachers' professional development programmes for teachers of the digital era which are: ability to use digital resources and tools for professional engagement, digital teaching and ability to facilitate students' digital literacy skills acquisition.

Teacher digital competencies for new technology utilization are of benefit to both the teachers themselves and to their students. This is because teachers' proficiency in the use of new digital technologies and other resources have been discovered to have link to the exposure of students to electronic learning exercises (Fraser, Atkins, & Hall, 2013; Abdulkarim & Onwuchekwa, 2020). Consequently, the possession of digital competences among teachers should actually promote their use of new technology to prepare for and teach in this digital era. Many evidences from existing studies have actually attested to the link between teachers' digital competencies development and the use of new technologies. Ely, et al (2015) reported that teachers who are able to effectively utilize digital resource have been identified as critical factors that facilitate the provision of students with learning experiences leading to digital skills acquisition. In same vein, Pegajalar-Palomino (2018) reported that teachers' digital competencies development is a strong determinant of their utilization of digital technologies to support students learning electronically.

There is no doubt that the teacher as an agent of change in the life of their students, when professionally equipped to play their roles would contribute to the knowledge and skills that improve students' capital for surviving in today's technological driven business world (Hobbs, 2017). Redecker (2017) noted that developing the 21st Century teachers with digital knowledge and skills helps them to meet the requirement for assisting their students to acquire digital related knowledge and skills for the digital era workplace. Ata and Yıldırım (2019) reported that teachers' digital competences also has significant influence on students' perception on utilization digital technologies like phone, computers, multimedia projectors etc., and this could also affect the level of their digital skills acquisition. Inferring from the above discourse, there is expectation that all business education lecturers should possess adequate digital competences to enable them utilize new technology. Nevertheless, the researchers are not sure if this is the situation with most business education lecturers in tertiary institutions in Rivers State. In addition, if business education Lecturers possess digital competencies, do they relate to their utilization of new technologies especially as students are seen frequenting the lecture halls for traditional teaching evaluation that is test and examination.

Research Question

The study was guided by the following research question:

1. What is the relationship between teachers' digital competencies development and utilization of new technology in evaluating business education in tertiary institution in Rivers State?

Hypotheses

The following hypotheses was tested at 0.05 significant level:

1. There is no significant relationship between teacher's digital competencies development and utilization of new technology in evaluating business education in tertiary institution in Rivers State.

Method

The design adopted for this study was a correlation research design. This research design was deemed appropriate because it allows the researcher to establish the relationship between the independent variable and the dependant variable. According to Davidson, et al. (2019), when it comes to establishing the relationship between two or more variables correlation research design is best used.

The population for this study was made up of 147 business education lecturers from all the public tertiary institutions in Rivers State, Nigeria offering Business Education as at 2024/2025 academic session. The population was deemed appropriate for the study because only business education lecturers can certify their possession of digital competencies and utilization of new technologies assessed. The breakdown of the population for the study was as follows:

Table 1: Population Distribution of Business Education Lecturers

S/N	Name of institutions	Lecturers
1.	Rivers State University	30
2.	University of Port Harcourt	06
3.	Ignatius Ajuru University	17
4.	FCE(T) Omoku	56
	Total	109

Source: Academic and Planning Unit of Each of the Universities, 2024

The researcher used the entire population of 109 business education lecturers in public universities in south-south, Nigeria as the sample of the study. The entire population was used because it is a manageable size. According to Saunders, et al (2012), when the population is small and the cost implication of studying is not much, the entire population can be studied.

Two structured questionnaires designed by the researcher and titled "Teachers' Digital Competencies Development in Business Education Questionnaire (TDCDBEQ)" and "Utilization of New Technologies in Evaluating Business Education Questionnaire (UNTEBEQ)" was used for the study. The first instrument contains 7 items assessing the various digital competences required of business education lecturers. The second instrument contains 12 Items assessing new technologies utilization. The response options for the entire items of both instruments are based on 4 points rating scales of Strongly Agree (SA – 4points), Agree (A – 3points), Disagree (D – 2 points), and Strongly Disagree (SD – 1point) with a criteria mean of 2.5 as the mid points of positive and negative responses.

The two instruments developed were given to three research experts, two from Business education department and one from the field of Measurement and evaluation in Federal College of Education (Technical), Omoku. The copy of the instruments was attached to the objectives of the study and hypotheses formulated and distributed to those involved in the validation. The experts were requested to determine the clarity and suitability of the items formulated for generating data required for the completion of the study. The experts were asked to make correction, suggestions as well as amend any item found not suitable. The contributions of the experts to the clarity and suitability of the items in the instrument were taken into consideration before the final copy of the instrument was mass produce for use to complete the study.

The reliability of the instrument was determined using the Cronbach Alpha coefficient. In order to generate data for testing the reliability of the instrument, a pilot study was conducted using 10 Business education lecturers of undergraduate programme in Federal College of Education (Technical), Omoku, Rivers State who were not part of the study. Data collected were analysed using Statistical Package for Social Science (SPSS) version 23.0. The computation gave a reliability index of 0.85 for the first instrument and 0.87 for the second instrument. The average for the two instruments was 0.86. According to Gill and Johnson (2010), range of Cronbach Alpha index that falls within 1to 0.69 are considered to be inadequate while from 0.70 to 1 are considered to be adequate and acceptable for most research instruments.

Consequently, the present instruments were deemed to be reliable with regards to their internal consistency which Cronbach alpha determines.

To cover the five tertiary institutions in Rivers State, the researcher recruited one research assistant to assist in administration of instruments to two tertiary institutions, while the researcher handled the other two. The research assistant was briefed on the purpose of the instruments and how to administer them to intended respondents. A letter of introduction explaining the purpose of the work was attached to the instruments. The instruments were administered to the respondents and retrieved the same day. However, at the point of collation only 95 copies were properly filled and returned. This is made up of approximately 87% of the 109 copies sent out. However, the copies properly filled were coded and data generated for analysis. Pearson Product Moment Correlation (r) was used to answer the research question and test the hypothesis posed at 0.05 level of significance. For the purpose of interpreting the r value obtained, relationship scale interpretation by Bryman and Bell (2011) was used:

r = 00 – 0.19 ‘very weak relationship
r = 0.20 – 0.30 ‘weak’,
r = 0.40 – 0.59 ‘moderate relationship’,
r = 0.60 – 0.79 ‘strong’,
r = 0.80 – 1.00 ‘very strong’

Results and Discussion

Research Question

What is the relationship between teachers’ digital competencies development and utilization of new technology in evaluating business education in tertiary institution in Rivers State?

Research Hypotheses

There is no significant relationship between teachers digital competencies development and utilization of new technology in evaluating business education in tertiary institution in Rivers State.

Table 2: Summary of PPMC Correlation on the Significant of Relationship between Teachers’ Digital Competencies Development and utilization of new technologies in evaluating business education in tertiary institution in Rivers State.

		Teacher's Competencies Development	Utilization of New Technologies
Teacher's Digital competencies Development	Pearson Correlation	1	-.133
	Sig. (2-tailed)		.191
	N	98	98
Utilization of new Technologies	Pearson Correlation	-.133	1
	Sig. (2-tailed)	.191	
	N	98	98

Table 2 reveals PPMC r = -0.133, p < .05 at 0.191. Since the p value obtained at 0.191 is less than the p value at provided at 0.05, the hypothesis accepted. This means that there is no significant relationship between teachers’ digital competencies development and utilization of new technologies in evaluation business education in tertiary institution in Rivers State, Nigeria.

Discussion of Finding

The results relating to the research question and hypotheses formulated revealed that there is a very weak positive relationship between teachers' digital competencies development and utilization of new technology in evaluating business education in tertiary institution in Rivers state. The results of hypotheses testing showed that there is no significant relationship between teachers' digital competencies development and utilization of new technology in evaluating business education programme in tertiary institution in Rivers state. This finding emanated from the fact that the respondents who opined that they possessed the digital competencies assessed, disagreed to their utilization of most of new technologies assessed in evaluating business education programme. The finding of this study is supported by the finding of Fakomogbon and Bolaji (2017) when they reported that learning and assessment of learning through mobile learning platforms (digital platforms) have not be adequately exploited in most tertiary institutions in Nigeria. The finding of this study is also supported by the assertion of Agbagbue (2019) who noted that the use of digital resources in teaching and learning has been significantly low and do not reflect the competence of teachers in empowering their students to practice collaboratively using online activities or learning activities that may require use of digital tools.

Conclusions

From the findings of this study, it was concluded that teachers' digital competencies development do not reflect their utilization of new technologies in evaluating Business Education in tertiary institution in Rivers State. It was also concluded that lecturers lack the institutional support to leverage and use new technologies in evaluating business education in tertiary institutions in Rivers State.

Recommendations

1. Business education administrators in tertiary institution in Rivers state should continue to make teachers' digital competencies development and utilization of new technology a part of their digital resource development policy and champion the canvassing for academic staff development support through Tertiary Education Trust Fund (TETFUND) in order to empower the lecturers to help their students acquire relevant skills.
2. Business education lecturers in universities in Rivers State, Nigeria should develop their digital competencies and integrated the use of new technologies in their teaching and learning evaluation in order to make assessment flexible for students.

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