E-READINESS INDEX (ERI) AND POSTGRADUATE BUSINESS EDUCATION STUDENTS' RESEARCH WRITING PROCESS IN UNIVERSITIES IN RIVERS STATE

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Abstract

The study determined how e-readiness index relates to research writing process of postgraduate Business Education students in Universities in Rivers State. Three specific objectives, research questions and hypotheses guided the study. Correlational design was adopted for the study and the population was 238 Postgraduate Business Education students in public Universities in Rivers state. The population was considered manageable hence used a census. The instruments used for the study were 2 self-structured questionnaire titled: E-Readiness Research Index Questionnaire (ERIQ) and Research Writing Process Questionnaire (RWPQ)". The questionnaires were validated by three (3) experts in the Faculty of Education. Two Business Educators and one Measurement and Evaluation experst. The instruments were designed in a 4-point rating scale response options of Strongly Agree to Strongly Disagree. Pearson's Product Moment Coefficient was used to establish the internal consistency and coefficient values of 0.81, and 0.89 respectively achieved. Research questions were answered using Pearson's Product Moment Coefficient (r) and t-transformation used to test the hypotheses and to establish the relationship between the two variables at 0.05 levels of significance. Findings from the study shows that the relationship between digital literacy, digital research methodology and technological proficiency as components of e-readiness index and Business Education postgraduate students' research writing process in universities in Rivers state were positively negligible. Based on the findings, conclusion was made that the relationship between e-readiness index and postgraduate Business Education students' research writing process is not positively strong. It was recommended among others that Institutions as well as students ought to collaborate with librarians to integrate information literacy into writing curricula.

Key words: E-readiness, Research, Digital Literacy, Digital Research Methodology, Technological Proficiency

Introduction

The increasing role of digital technologies in education is one that has attracted a lot of study on different aspects of digital technologies as well as information and communication technologies in education. Diverse learning fields have explored dimensions of digital technologies in relationship to their area of specializations. It is in this regard that Haleem, Javaid, Qadri and Suman (2022) stated that digital technologies are essential for actualization of diverse educational goals. Among the various aspects in regards to digital technologies for education is the readiness of individuals as well as institutions for adoption and adaptation of digital technologies and utilization of information and communication technologies for educational purposes which connote E-readiness.

E-readiness has to do with the ability of an individual, organization or even country to effectively make use of digital technologies as well as information and communication technologies to achieve its goals and for improvement of performance (Zubairu, Oyefolahan, Babakano, Etuk & Mohammed, 2020). According to Titus, Kunwal, Anthony and Abubakar (2024), E-readiness which is electronic readiness measures the extent or degree to which a community, group or people are ready, willing and capable of gaining advantages from using e-learning and technology. E-Readiness refers to the level of preparedness to engage and function in a digital, interconnected world. Assessing it is a modern approach aimed at evaluating the skills needed to effectively use ICT tools (Pal, Dharminder & Dhaliwa 2020). E-readiness is a term used to describe the level of preparedness of an individual (student), organization or country to participate in the digital economy. For students and postgraduate students in particular, e-readiness is essential as it depicts their engagement digitally for academic activities of which research writing is vital.

Research writing connotes developing written contents with regards to analysis and interpretation of data which is based on a topic. It serves the purpose of communicating findings and results, contributing to knowledge, authenticating arguments, enabling informed decision and showcasing expertise and credibility. Research writing is a reflection of academic as well as career growth for students. It is also a requirement for admission into higher degree programmes (Prathap, Akhter –Ali & Kamraju 2019). Research writing allows Student to critically analyze information, develop arguments, and communicate findings effectively (Ditimi & Ayanda, 2019). For an academic programme like Business Education, research writing is considered a necessity and a prerequisite for graduation.

Business Education is a field of study designed to develop appropriate skills and competencies in business practice. It involves teaching student the fundamentals, concepts, theories and process of Business. Business Education is a course that prepares student for entry and advancement in jobs within business. It is equally important to prepare Students' to handle their own business affairs and to function intelligently as consumers and citizens in a business economy (Koko & Chike, 2020). Business Education programme is offered at both undergraduate and postgraduate levels. Research process in Business Education postgraduate programme often involves the identification of relevant literature, collection of data, data analyzing and synthesizing of findings, all of which are essentials components of research writing. Considering the importance of research writing to postgraduate students, it becomes necessary to relate it to E-readiness.

E-Readiness refers to the ability of a student to utilize information communication technology (ICT) for the purpose of carrying out a particular research endeavour (Kashorda & Waema, 2021). In the context of this study, E-readiness Index is a measure to assess postgraduate Business Education student ability to use information and communication technologies in conducting research activities in universities. Considering the importance of research writing to postgraduate students and Business Education students in particular, in consonance to the influence of information and communication technologies to education, it becomes necessary to determine the E-readiness of Business Education postgraduate students in relationship to research writing. E-readiness index therefore connotes the knowledge of digital literacy, digital research methodologies and technological proficiency among postgraduate Business Education students in tandem with research writing.

Digital literacy facilitates effective use of online databases and search engines. It is important to state that effective use of online database is pertinent for research writing process as it enables filtering by publication example peer-reviewed articles, conferences among others. Digital literacy facilitates organization and storage of research materials. It brings to consciousness digital ethics which gives understanding of copyright and fair use in digital environment as well as proper attribution of digital sources. Furthermore, digital literacy gives understanding of different types of databases such as general academic database, subject specific databases and institutional reposition and open access databases (Much & Bambang, 2024). By fostering digital literacy,

researchers can revolutionize their writing process, producing high-quality work with greater efficiency and impact.

Digital research methodology enables utilization of digital tools to gather data, application of algorithms, statistical methods and software to analyze data, visual representation of data through digital technology is also aided. Each phase of research writing can be aided through digital technology hence the need for adoption of digital research methodologies (Brunetti, Bonfanti, Chiarini & Vannucci, 2023). For research activities, data collection is very important as decisions as well as recommendations are derived from the data analyzed. This is mind, it becomes necessary for postgraduate students to adopt digital research methodology seeing that it would facilitate data collection and analyses. This could take the form of conducting an interview using such tools like skyp, facebook or zoom, conducting online surveys using platforms like survey monkey, Google forms as well as using internet as a data source. Digital research methodology saves cost and time while ensuring results are gotten to facilitate decision making.

Technological proficiency connotes the ability to utilize information and communication technology to communicate effectively. It is the ability of an individual to use and apply technology effectively. It can be regarded as a measure of an individual's comfort and competence with using digital devices and tools such as computers, smart phones as well as internet (Eskici & Cayak, 2023). Technological proficiency is an important factor in determining an individual's ability to participate in and benefit from digital technologies. It is a key indicator of an individual's ability to adapt to and take advantage of new technologies. Having a high level of technological proficiency is beneficial for increased productivity, improved communication and even access to new opportunities. As it pertains to research writing, it is important for students to be proficient with technology. With the rise of digital tools and platforms, researchers have the opportunity to access vast amount of information, collaborate with colleagues and communicate their findings more efficiently than before (Diawati, Gadzali, AbdAziz, Ausat & Suherlan, 2023). Being technologically proficient facilitates collaboration among researchers as ideas can be shared among researchers with the help of online collaboration tools and platforms thus bringing researchers from all over the world regardless of geographical location (Zhang & Zou, 2021

Statement of the Problem

One of the significant and saleable objective of Business Education programme as a component of general education programme is to produce students who can identify societal problems and provide solution to such societal problems through evidence-based research. This has necessitated various stakeholders to prioritise research writing and ensure that students' are knowledgeable in the process of writing research. However, observations have shown that despite this well-intended objective and the concerted efforts put in by major Business Education stakeholders in making sure that postgraduate students in Business Education programme become more proficient in research by embracing some of the emerging technological tools that can enhance their research writing in this digital phase, there are still lapses among postgraduate students. This could imply that software resources, hardware infrastructures, websites, digital capability, digital literacy, digital research methodologies and technological proficiency among Business Education postgraduate students may be low. Consequent upon this short fall, some of the postgraduate students encounter some avoidable challenges in their research process writing despite the efforts put in by their research supervisors to guide them professionally. This short fall may be occasioned by the paucity of e-research skills needed by some of the postgraduate Business Education students to use technologies in carrying out their research endeavours. Based on the foregoing, the researcher inquires if there is a relationship between e-readiness index of postgraduate Business Education students and research writing process in Universities in Rivers State?

Research Questions

The following research questions guided the study:

1. How does digital literacy as a component of e-readiness index relate to postgraduate Business Education students' research writing process in Universities in Rivers State?
2. How does technological proficiency as a component of e-readiness index relate to postgraduate Business Education students' research writing process in Universities in Rivers State?
3. How does knowledge of digital research methodologies relate to postgraduate Business Education students' research writing process in Universities in Rivers State?

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

1. There is no significant relationship between digital literacy as a component of e-readiness index and postgraduate Business Education students' research writing process in Universities in Rivers State.
2. There is no significant relationship between technological proficiency as a component of e-readiness index and postgraduate Business Education students' research writing process in Universities in Rivers State.
3. There is no significant relationship between knowledge of digital research methodologies and postgraduate Business Education students' research writing process in Universities in Rivers State

Methodology

This study adopted a correlational design and was carried out in Rivers State. The population of the study comprised 238 Business Education postgraduate students of Public Universities in Rivers State. The population was taken as a census. Two sets of self-structured Questionnaire titled “E-Readiness Research Index Questionnaire (ERIQ) and Research Writing Process Questionnaire (RWPQ).”were used to elicit data for the study.The study adopted a 4 point rating scale, of Strongly Agreed to Strongly Disagreed. The instruments were validated by three (3) experts. Pearson Product Moment Correlation was used to establish the internal consistency of the items which yielded index of 0.81 for E-Readiness Research Index Questionnaire (ERIQ) and 0.89 for Research Writing Process Questionnaire (RWPQ) which were considered adequate for the study in terms of reliability of the instrument. The research questions were answered using Pearson's Product Moment Correlation Coefficientand hypotheses also tested using Pearson's Poduct Moment Correlation Coefficient.

Results

Research Question 1: How does digital literacy as a component of e-readiness index relate to postgraduate Business Education students' research writing process in Universities in Rivers State?

Table 1: Respondents Rating of Pearson Product Moment Correlation Coefficient on how digital literacy as a Component of E-readiness index, relate to Postgraduate Business Education Students Research Writing Process in Universities in Rivers State

Variables	N	∑X	∑Y	X^2	Y^2	∑XY	r	Remarks
Digital literacy (X)	196	582.66		1766.39				
						2028.85	0.02	Negligible positive
Postgraduate Business Education students Research writing process (Y)	196		682.28		2420.61			

The analysis in Table 1 The analysis showed that r-value was 0.02 which indicates a negligible positive relationship between the above mentioned variables. This implies that as digital literacy among postgraduate Business Education students' increases, their research writing process tends to increase too. However, the relationship is not very strong.

Research Question 2: How does digital research methodologies as a component of e-readiness index relate to postgraduate Business Education students' research writing process in Universities in Rivers State?

Table 2 : Respondents Rating of Pearson roduct Moment Correlation Coefficient on how Digital Research Methodologies as a Component of E-readiness Index, relate to Postgraduate Business Education Students Research Writing Process in Universities in Rivers State.

Variables	N	∑X	∑Y	X^2	Y^2	∑XY	r	Remarks
Digital research methodologies (X)	196	585.7		1783.56				
						2034.60	-0.11	Very low negative
Postgraduate Business Education students Research writing process (Y)	196		682.28		2420.61			

The analysis in Table 2 showed that (r = -0.11) indicating that a very low negative relationship exist between digital research methodologies and postgraduate Business Education students' research writing process. It suggests that as digital research methodologies increases, there is a decrease in postgraduate Business Education students' research writing process. However, the relationship is very weak hence may not be reliable despite the suggestion of a potential inverse relationship.

Research Question 3: How does technological proficiency as a component of e-readiness index relate to postgraduate Business Education students' research writing process in Universities in Rivers State?

Table 3: Respondents Rating of Pearson Product Moment Correlation Coefficient on how Technological Proficiency as a Component of E-readiness Index, relate to Postgraduate Business Education Students Research Writing Process in Universities in Rivers State (N=196)

Variables	N	∑X	∑Y	X^2	Y^2	∑XY	r	Remarks
Technological proficiency (X)	196	608.06		1914.79				
						2117.72	0.03	Negligible positive
Postgraduate Business Education students Research writing process (Y)	196		682.28		2420.61			

The analysis in Table 3 The analysis showed that r-value was 0.03 which indicates a negligible positive relationship between the above mentioned variables. The correlation coefficient of 0.03 indicates a very weak positive linear relationship between technological proficiency and postgraduate Business Education students' research writing process in universities in Rivers state. This implies that an increase in technological proficiency tends to increase research writing process of postgraduate Business Education students in universities in Rivers state.

Hypothesis 1: There is no significant relationship between digital literacy as a component of e-readiness index and postgraduate Business Education students' research writing process in Universities in Rivers State.

Table 4: t-transformation Result on the Relationship between Digital Literacy as a Component of E-readiness Index and Postgraduate Business Education Students' Research Writing Process in Universities in Rivers State (N=196)

Variable	N	∑X	∑Y	∑XY	R	∝	Df	t-trans	t-crit	Remarks
Digital Literacy (X)	196	582.66								
				2420.61	0.02	0.05	194	0.28	1.96	Retained
Postgraduate Business Education students Research writing process (Y)	196		682.28							

The analysis in Table 4 revealed that the t-transformation value of 0.28 is lesser than t-critical value of 1.96 (t-trans<t-crit). Hence the hypothesis was retained. It implies that, there is no significant relationship between digital literacy as a component of E-readiness index and

postgraduate Business Education students' research writing process in universities in Rivers state.

Hypothesis 2: There is no significant relationship between digital research methodologies as a component of e-readiness index and postgraduate Business Education students' research writing process in Universities in Rivers State.

Table 5:t-transformation Result on the Relationship between Digital Research Methodologies as a Component of E-readiness Index and Postgraduate Business Education Students' Research Writing Process in Universities in Rivers State. (N=196)

Variable	N	∑X	∑Y	∑XY	R	∝	Df	t-trans	t-crit	Remarks
Digital research methodologies (X)	196	585.7								
				2034.60	-0.11	0.05	194	-1.54	1.96	Retained
Postgraduate Business Education students Research writing process (Y)	196		682.28							

The analysis in Table 5 revealed that the t-transformation value of -1.54 is lesser than t-critical value of 1.96 (t-trans<t-crit). Hence the hypothesis was retained. It implies that, there is no significant relationship between digital research methodologies as a component of E-readiness index and postgraduate Business Education students' research writing process in universities in Rivers state.

Hypothesis 3: There is no significant relationship between technological proficiency as a component of e-readiness index and postgraduate Business Education students' research writing process in Universities in Rivers State.

Table 6: t-transformation Result on the Relationship between Technological Proficiency as a Component of E-readiness Index and Postgraduate Business Education Students' Research Writing Process in Universities in Rivers State. (N=196)

Variable	N	∑X	∑Y	∑XY	R	∝	Df	t-trans	t-crit	Remarks
Technological proficiency (X)	196	608.06								
				2117.72	0.03	0.05	194	0.42	1.96	Retained
Postgraduate Business Education students Research writing process (Y)	196		682.28							

The analysis in Table 6 revealed that the t-transformation value of 0.42 is lesser than t-critical value of 1.96 (t-trans<t-crit). Hence the hypothesis was retained. It implies that, there is no significant relationship between technological proficiency as a component of E-readiness index and postgraduate Business Education students' research writing process in universities in Rivers state.

Discussion of findings

Findings from research question one which was on how digital literacy as a component of e-readiness index relates to postgraduate Business Education students' research writing process in universities in Rivers state revealed a negligible positive relationship. The hypothesis to this effect was retained. The implication of this finding is that as digital literacy increases, postgraduate Business Education students' research writing process increases too. These findings give credence to the views of Much and Bambang (2024) who addressed the importance of digital literacy to researching writing as a vital skill owing to it facilitating effective use of online databases as well as bringing digital ethics, understanding of fair use in digital environment and proper attribution of digital sources. The researcher is of the opinion that postgraduate Business Education students ought to improve their digital literacy seeing that it enables smooth research writing process.

Findings from research question two which was on how digital research methodologies as a component of e-readiness index relates to postgraduate Business Education students research writing process in universities in Rivers state revealed a very low negative relationship. This implies that there is an inverse relationship. The hypothesis to this effect was retained. The findings does not totally align with the views of Brunette et al (2023) who stated that digital research methodology aides various aspect of research writing process. However, the findings exposes the need for postgraduate Business Education students to adopt digital research methodologies for research writing process as it facilitates analyses. From research question three with reference to how technological proficiency relates to postgraduate Business Education students research writing process in universities in Rivers state, revealed a negligible positive relationship and the hypothesis to this effect retained. This means an increase in technological proficiency, increases research writing process of postgraduate Business Education students in universities in Rivers state. This finding brings to consciousness the need for researchers to capitalize on online and digital avenue for research activities. It supports the views of Diawati, Aadzali, Abdaziz, Ausat and Suherlan (2023) who stated that being technologically proficient avail researchers avenue to access vast amount of information that would boost their literature and

knowledge on concepts in view. The researcher is of the opinion that postgraduate Business Education students ought to continually be abreast with technological development so as to apply it for research activities.

Conclusion

The relationship between the variables considered in the study indicated negligible positive relationship. It becomes necessary for postgraduate students' to be technologically competent to enable a seamless research writing process.

Recommendations

Based on the findings of the study, the following are recommended:

1. Awareness by University postgraduate as well as department of Business Education on digital literacy should be made for postgraduate students to ensure they can effectively navigate and utilize modern digital tools and technologies.
2. Provision of free or discounted access to research software: institutions should make available free or discounted access for research software as some students may less likely utilize software that should facilitate research writing due to cost.
3. Collaboration: students as well as institutions ought to collaborate with librarians to integrate information literacy into writing curricula.

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