



IMPACT OF DIGITAL EDUCATIONAL RESOURCES ON THE SCHOLASTIC PERFORMANCE OF BUSINESS EDUCATION STUDENTS IN NWAFOR ORIZU COLLEGE OF EDUCATION, NSUGBE, ANAMBRA STATE.

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ABSTRACT

This study examined the impact of digital educational resources on the scholastic performance of Business Education students at Nwafor Orizu College of Education, Nsugbe, Anambra State. Four research questions guided the study, and four null hypotheses were tested. A descriptive survey research design was adopted. The population comprised 174 respondents, including 160 Business Education students and 14 lecturers. A stratified random sampling technique was used to select the respondents. Data were collected using a structured questionnaire designed on a four-point rating scale and students' academic performance records. The instrument was validated by two experts in Business Education, while reliability was established using the Cronbach Alpha method, yielding a coefficient of 0.85. Out of 174 questionnaires distributed, 168 were retrieved and used for analysis. Mean and standard deviation were used to answer the research questions, while t-test statistics were used to test the hypotheses at the 0.05 level of significance using SPSS version 23. The findings revealed that digital educational resources such as computer laboratories, multimedia projectors, Google Sheets, Excel, podcasts, WhatsApp, and PowerPoint were available and widely utilized. However, e-books, Google Classroom, and accounting software such as QuickBooks and Sage Accounting were not adequately available. The study also found that the use of digital educational resources significantly improved students' examination scores, research skills, classroom participation, and independent learning ability. Major challenges identified included inadequate digital literacy, poor power supply, insufficient ICT facilities, and limited internet bandwidth. The study concluded that effective utilization of digital educational resources enhances students' scholastic performance. It was recommended that the management of Nwafor Orizu College of Education improve the availability of digital tools, strengthen ICT infrastructure, and provide regular digital literacy training.

Keywords: Digital educational resources, scholastic performance, Business Education, ICT integration, tertiary education.

Introduction

The rapid advancement of digital technology has significantly transformed educational systems worldwide, reshaping the methods through which knowledge is created, accessed and disseminated. Digital Educational Resources (DERs) are instructional materials created, stored, and delivered in digital formats to facilitate teaching and learning through technologies such



as computers, tablets, smartphones, and the internet. These include e-books, online databases, multimedia tools, educational videos, interactive applications, and learning management systems (OECD, 2021). These resources include e-books, online databases, multimedia tools, educational videos, interactive applications and learning management systems. Digital educational resources refer to electronically accessible instructional materials designed to enhance teaching and learning. These include computer laboratories, digital libraries, e-books, simulation software, multimedia presentations, online academic databases and virtual learning platforms (OECD, 2021). Research indicates that such resources foster collaboration, immediate feedback, and self-directed learning (Enwere, 2024). Their integration into educational practices has expanded considerably in recent years (Federal Republic of Nigeria (FRN), 2013; OECD, 2021).

Digital Educational Resources have enhanced accessibility, flexibility, and learner engagement. Through platforms such as Khan Academy, Coursera and MIT OpenCourseWare, students can access high-quality educational content anytime and anywhere. These platforms support self-directed learning, encourage independent research and promote interactive learning environments. By incorporating quizzes, simulations, discussion forums, and multimedia presentations, digital tools accommodate diverse learning styles and improve student participation.

A major benefit of digital educational resources is flexibility. Learners can study at their own pace, revisit instructional materials when necessary and explore subjects beyond the constraints of traditional classroom settings. Furthermore, digital resources contribute to cost reduction by providing free or affordable learning materials. Open Educational Resources (OER), in particular, minimize financial barriers by offering freely accessible textbooks and course content. Therefore, educators also benefit from digital platforms through efficient assignment distribution, real-time progress tracking, and improved communication with students. Students reported moderate to high usage of digital resources for assignments, research, and collaborative projects. However, inconsistent internet access limited optimal utilization.

Scholastic performance encompasses measurable academic outcomes such as examination scores, coursework assessments, project work and overall grade point averages. In Business Education, performance also reflects competency in practical skills such as accounting software usage, word processing, data management and entrepreneurial simulations. Dindin (2024) indicated a significant positive relationship between the use of digital educational resources and academic performance. Students who frequently utilized digital tools demonstrated higher examination scores, improved research skills, enhanced classroom participation and greater independent learning capacity. Within the context of Business Education, scholastic performance extends beyond theoretical achievement to include the acquisition of practical Information and Communication Technology (ICT) competencies essential for professional practice (FRN, 2013).

In Nigeria, ICT integration in tertiary education is recognized as a strategic mechanism for enhancing educational quality and global competitiveness (FRN, 2013). Business Education programmes require students to develop both theoretical knowledge and practical digital competencies, including word processing, spreadsheet management, database usage and accounting software applications. The effective utilization of digital educational resources is



therefore expected to improve students' academic achievement and enhance their readiness for the modern workplace. Adedoyin and Soykan (2020) indicates that ICT integration enhances students' motivation and academic outcomes, although infrastructural barriers remain significant.

Despite these advantages, several challenges limit the effective use of digital educational resources. These include inadequate ICT infrastructure, unreliable internet connectivity, unstable power supply, limited access to appropriate devices and insufficient digital literacy skills. These barriers are consistent with findings by Adedoyin and Soykan (2020), that infrastructural limitations affect effective digital learning implementation in developing countries. Dumbiri and Nwadiani (2020) noted challenges to effective use of digital educational resources to include poor power supply, limited bandwidth, insufficient ICT equipment and inadequate digital literacy among some students and staff. These findings align with existing research emphasizing that technology integration enhances performance when infrastructural and skill-related barriers are addressed. Such disparities in access and competence may influence the overall effectiveness of digital learning initiatives. Although digital resources have been introduced at Nwafor Orizu College of Education to support teaching and learning, empirical evidence regarding their impact on the scholastic performance of Business Education students remains limited.

Statement of the Problem

The increasing availability of digital educational resources in tertiary institutions does not automatically translate into improved academic outcomes. In many institutions, including Nwafor Orizu College of Education, inconsistencies in the academic performance of Business Education students raise concerns about the extent to which these resources are effectively utilized. Factors such as inadequate ICT facilities, unstable power supply, limited internet access, and insufficient digital literacy skills may hinder the optimal use of digital tools (Adedoyin & Soykan, 2020). Given the importance of ICT integration in enhancing educational quality and professional competence, there is a need to empirically examine the relationship between digital educational resources and students' scholastic performance. Given the strategic importance of ICT integration in enhancing educational quality and professional competence, there is a need to empirically examine the relationship between digital educational resources and students' scholastic performance. This study therefore seeks to investigate the impact of digital educational resources on the scholastic performance of Business Education students at Nwafor Orizu College of Education.

Purpose of the Study

The purpose of this study was to examine the impact of digital educational resources on the scholastic performance of Business Education students at Nwafor Orizu College of Education Nsugbe Anambra State. The study sought to:

1. Determine the types of digital educational resources available to Business Education students at Nwafor Orizu College of Education.
2. Examine the extent to which Business Education students utilize digital educational resources for academic purposes at Nwafor Orizu College of Education.



3. Assess the level of scholastic performance of Business Education students on the use of digital educational resources and academic performance at Nwafor Orizu College of Education.
4. Identify the challenges affecting the effective use of digital educational resources among Business Education students at Nwafor Orizu College of Education.

Research Questions

The following research questions guided the study:

1. What types of digital educational resources are available to Business Education students at Nwafor Orizu College of Education?
2. To what extent do Business Education students utilize digital educational resources for academic purposes at Nwafor Orizu College of Education?
3. What is the level of scholastic performance of Business Education students on the use of digital educational resources and academic performance at Nwafor Orizu College of Education?
4. What challenges affect the effective use of digital educational resources among Business Education students at Nwafor Orizu College of Education?

Hypotheses

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

1. There is no significant difference in the mean ratings of respondents on the types of digital educational resources available to Business Education students at Nwafor Orizu College of Education.
2. There is no significant extent in the utilization of digital educational resources for academic purposes among Business Education students at Nwafor Orizu College of Education.
3. The use of digital educational resources does not significantly influence the scholastic performance of Business Education students at Nwafor Orizu College of Education.
4. There are no significant challenges affecting the effective use of digital educational resources among Business Education students at Nwafor Orizu College of Education.

Methods

A descriptive survey research design was adopted which is appropriate for investigating the impact of digital educational resources on the scholastic performance of Business Education students. The survey design allows for the collection of data from a large population to describe trends, relationships, and patterns in the utilization of digital resources and students' academic outcomes. The population comprised of 174 (160 Business Education students and 14 lecturers) at Nwafor Orizu College of Education. A stratified random sampling technique was used to select respondents. Data were collected through structured questionnaires on 4 points scale and academic performance records. The instrument was validated by two experts in business education. Cronbach Alpha method was used to establish the reliability of the instrument. The reliability coefficients values of 0.87, 0.83, 0.77 and 0.91 for clusters B1 to B4 respectively, with an overall co-efficient value of 0.85. Out of 174 copies of questionnaire distributed to respondents in the institution, 168 copies (representing 97 percent) were retrieved



with an attrition rate of 6 copies (representing 3 percent) and used for data analysis. Data collected were analyzed using mean and standard deviation to answer research questions while t-test was used to test the null hypotheses at 0.05 level of significance. Decision on the questionnaire items were interpreted on means, any mean score of 2.50 and above were considered agreed while the mean scores below 2.50 were considered disagreed. The application of Statistical Package for Social Sciences (SP SS) version 23 was used for data analysis. For the hypotheses, p-value was used for decision making. Where the calculated p-value was less than the stipulated level of significance 0.05 ($p < 0.05$), it implies that there was a significant difference between respondents' mean scores and the null hypothesis is rejected. On the other hand, if the p-value is greater than or equal to the alpha level of 0.05 ($p \geq 0.05$), it means that there was no significant difference in the respondents mean scores and is not rejected.

Presentation of Results

Research Question 1: What types of digital educational resources are available to Business Education students at Nwafor Orizu College of Education?

Table 1: Respondents mean ratings on the types of digital educational resources available to students at Nwafor Orizu College of Education. N=168

S/N Types of digital educational resources	$\bar{X}$	SD	Remarks
1. Computer laboratories	2.60	0.54	Agree
2. E-books	2.22	0.66	Disagree
3. Multimedia projectors	2.80	0.50	Agree
4. Google Classroom	2.25	0.57	Disagree
5. Virtual accounting software	2.46	0.57	Disagree
6. Google Sheets	3.14	0.45	Agree
7. Excel	3.22	0.43	Agree
8. Podcasts	2.60	0.71	Agree
9. WhatsApp	2.88	0.47	Agree
10. QuickBooks	2.48	0.56	Disagree
11. Sage Accounting	2.46	0.57	Disagree
12. PowerPoint	2.66	0.52	Agree

Data in Table 1 show that the respondents agree that seven items were types of digital educational resources are available to Business Education students at Nwafor Orizu College of Education with mean scores ranging from 2.60 to 3.22, while remaining five items were not available with mean scores ranging from 2.22 to 2.48. This is because its mean score was above 2.50 which is the cut of point. The standard deviations show that there is homogeneity amongst responses indicating a greater consensus of opinions.

Research Question 2: To what extent do Business Education students utilize digital educational resources for academic purposes at Nwafor Orizu College of Education?

**Table 2: Respondents mean ratings on the extent of utilization of digital educational resources for academic purposes at Nwafor Orizu College of Education. N=168**

S/N Extent of utilization of digital educational resources	$\bar{X}$	SD	Remarks
13. Computer laboratories	3.66	0.52	High Extent
14. E-books	2.43	0.66	Low Extent
15. Multimedia projectors	2.90	0.63	High Extent
16. Google Classroom	2.37	0.69	Low Extent
17. Virtual accounting software	2.33	0.72	Low Extent
18. Google Sheets	3.58	0.57	High Extent
19. Excel	3.64	0.54	High Extent
20. Podcasts	3.46	0.59	High Extent
21. WhatsApp	3.58	0.57	High Extent
22. QuickBooks	2.48	0.64	Low Extent
23. Sage Accounting	2.36	0.68	Low Extent
24. PowerPoint	3.66	0.52	High Extent
Cluster Mean	2.75	High Extent	

Data in Table 2 show that seven out of the 12 items listed have mean ratings of 2.90 to 3.66 which indicate high extent and the remaining five items have mean ratings of 2.33 to 2.48 as indicate low extent on the level of utilization of digital educational resources for academic purposes at Nwafor Orizu College of Education. The standard deviations show that there is homogeneity amongst responses indicating a greater consensus of opinions. The cluster mean score of 2.47 indicates that respondents utilize digital educational resources for academic purposes at Nwafor Orizu College of Education at high extent.

Research Question 3: What is the level of scholastic performance of Business Education students on the use of digital educational resources and academic performance at Nwafor Orizu College of Education?

Table 3: Respondents mean ratings on the level of scholastic performance on the use of digital educational resources and academic performance at Nwafor Orizu College of Education. N=168

S/N Level of scholastic performance on the use of digital educational resources	$\bar{X}$	SD	Remarks
25. Higher examination scores	3.66	0.42	High Extent
26. Improved research skills	3.43	0.46	High Extent
27. Enhanced classroom participation	3.90	0.33	High Extent
28. Greater independent learning capacity	3.37	0.49	High Extent
Cluster Mean	3.59	0.43	High Extent

Data in Table 3 show that the use of digital educational resources positively influences the scholastic performance of Business Education students. The cluster mean of 3.59 indicates that respondents agreed to a high extent that digital resources enhance academic performance.



Enhanced classroom participation ($X = \overline{3.90}$) had the highest mean, followed by higher examination scores ($X = 3.66$). Respondents also agreed that digital resources improve research skills ($X = 3.43$) and promote independent learning capacity ($X = 3.37$). Overall, the findings reveal that digital educational resources significantly improve students' learning and academic achievement.

Research Question 4: What challenges affect the effective use of digital educational resources among Business Education students at Nwafor Orizu College of Education?

Table 4: Respondents mean ratings on the challenges affecting effective use of digital educational resources among Business Education students at Nwafor Orizu College of Education. N=168

S/N Challenges affecting effective on the use of digital educational resources	$\overline{X}$	SD	Remarks
29. Poor power supply	3.52	0.64	High Extent
30. Limited bandwidth	3.31	0.66	High Extent
31. Insufficient ICT equipment	3.42	0.63	High Extent
32. Inadequate digital literacy among some students and staff	3.72	0.69	High Extent
Cluster Mean	3.49	0.66	High Extent

Data in Table 4 shows respondents' views on the challenges affecting the effective use of digital educational resources among Business Education students at Nwafor Orizu College of Education. The cluster means of 3.49 indicates that respondents agreed to a high extent that several challenges hinder their effective use. Inadequate digital literacy among some students and staff ($X = 3.72$) ranked highest, followed by poor power supply ($X = 3.52$). Other challenges identified include insufficient ICT equipment ($X = 3.42$) and limited bandwidth ($X = 3.31$). These findings suggest that infrastructural limitations and inadequate ICT skills hinder the effective use of digital educational resources.

Hypotheses Testing

Hypothesis 1: There is no significant difference in the mean ratings of respondents on the types of digital educational resources available to Business Education students at Nwafor Orizu College of Education.

Table 3: Summary of t-test analysis of respondents' mean ratings on the types of digital educational resources available to Business Education students

Variable	N	$\overline{X}$	SD	Df	t-value	p-value	Decision
Digital Educational Resources Availability	168	2.65	0.55	166	2.73	0.05	Not Significant

The result in Table 5 shows that the t-value (2.73) is greater than the p-value (0.05) level of significance. Therefore, the null hypotheses is rejected. This indicates that there is a



significant availability of some of digital educational resources to Business Education students at Nwafor Orizu College of Education.

Hypothesis 2: There is no significant extent in the utilization of digital educational resources for academic purposes among Business Education students at Nwafor Orizu College of Education.

Table 3: Summary of t-test analysis of respondents' mean ratings on the extent of utilization of digital educational resources for academic purposes

Variable	N	$\bar{X}$	SD	Df	t-value	p-value	Decision
Utilization of Digital Educational Resources	168	2.75	0.61	166	3.02	0.05	Not Significant

The result in Table 6 shows that the t-value (3.02) is greater than the p-value (0.05) level of significance. Therefore, the null hypotheses is rejected. This indicates that Business Education students at Nwafor Orizu College of Education utilize digital educational resources for academic purposes to a significant and high extent.

Hypothesis 3: The use of digital educational resources does not significantly influence the scholastic performance of Business Education students at Nwafor Orizu College of Education.

Table 3: Summary of t-test analysis of respondents' mean ratings on the influence of digital educational resources on scholastic performance

Variable	N	$\bar{X}$	SD	Df	t-value	p-value	Decision
Scholastic Performance from the use of Digital Educational Resources	168	3.59	0.43	166	4.18	0.05	Not Significant

The result in Table 7 shows that the t-value (4.18) is greater than the p-value (0.05) level of significance. Therefore, the null hypotheses is rejected, indicating that use of digital educational resources significantly influence the scholastic performance of Business Education students at Nwafor Orizu College of Education.

Hypothesis 4: There are no significant challenges affecting the effective use of digital educational resources among Business Education students at Nwafor Orizu College of Education.



Table 4: Summary of t-test analysis of respondents' mean ratings on the challenges affecting the effective use of digital educational resources

Variable	N	$\bar{X}$	SD	Df	t-value	p-value	Decision
Challenges Affecting Effective Use of Digital Educational Resources	168	3.49	0.66	166	3.85	0.05	Not Significant

The result in Table 8 shows that the t-value (4.18) is greater than the p-value (0.05) level of significance. Therefore, the null hypotheses is rejected, indicating that significant challenges affect the effective use of digital educational resources among Business Education students at Nwafor Orizu College of Education.

Discussion

The findings of first research question revealed that several digital educational resources are available to Business Education students. These include computer laboratories, multimedia projectors, Google Sheets, Excel, podcasts, WhatsApp, and PowerPoint. However, resources such as e-books, Google Classroom, virtual accounting software, QuickBooks, and Sage Accounting were not adequately available. This suggests that while some digital tools are accessible to support teaching and learning, specialized educational and accounting software required for Business Education training are limited. This finding supports earlier studies that reported uneven availability of ICT resources in tertiary institutions in developing countries. The result also aligns with the position of Organization for Economic Co-operation and Development (OECD) (2021) which emphasized that effective digital learning depends on adequate availability of diverse digital resources.

The findings of hypothesis one further revealed that there was a significant availability of some of digital educational resources to Business Education students at Nwafor Orizu College of Education. The finding agrees with OECD (2021) which revealed that availability of some of digital educational resources was found to have a significant effect on the performance of students.

The findings of second research question revealed that Lecturers and Business Education students utilize digital educational resources for academic purposes to a high extent, with a cluster mean of 2.75. Resources such as computer laboratories, Excel, Google Sheets, podcasts, WhatsApp and PowerPoint were frequently utilized. However, the utilization of e-books, Google Classroom, virtual accounting software, QuickBooks and Sage Accounting was low. This implies that students tend to utilize commonly available and user-friendly digital tools more frequently, while specialized educational platforms and accounting software are underutilized. This finding is consistent with previous research indicating that lecturers and students are more likely to adopt digital tools that are readily accessible and familiar to them. This finding is in line with Enwere (2024) who stated that such resources foster collaboration, immediate feedback, and self-directed learning. The findings agreed with Federal Republic of



Nigeria (FRN), (2013) and OECD (2021) which revealed that their integration into educational practices has expanded considerably in recent years.

The findings of hypothesis two further revealed that Lectures and Business Education students at Nwafor Orizu College of Education utilize digital educational resources for academic purposes to a significant and high extent. The finding agrees with OECD (2021) which revealed that utilization of digital educational resources for academic purposes have significant effect on the performance of students.

The findings of third research question further revealed that the use of digital educational resources positively influences the scholastic performance of Business Education students. The results indicated improvements in classroom participation, examination scores, research skills, and independent learning capacity. Enhanced classroom participation recorded the highest mean score, indicating that digital tools make learning more interactive and engaging. This finding agrees with Adedoyin and Soykan (2020) who reported that digital learning technologies improve student engagement, academic performance and research skills. The results also support the view that digital educational resources facilitate independent learning and encourage students to explore academic content beyond traditional classroom settings.

The findings of hypothesis three further revealed that use of digital educational resources significantly influence the scholastic performance of Business Education students at Nwafor Orizu College of Education. The finding agrees with Dindin (2024) who revealed a significant positive relationship between the use of digital educational resources and academic performance. Dindin (2024) further agrees that Students who frequently utilized digital tools demonstrated higher examination scores, improved research skills, enhanced classroom participation and greater independent learning capacity. In agreement, Business Education, scholastic performance extends beyond theoretical achievement to include the acquisition of practical Information and Communication Technology (ICT) competencies essential for professional practice (FRN, 2013).

The findings of forth research question further revealed that despite the benefits of digital educational resources, the study identified several challenges affecting their effective use. These include inadequate digital literacy among some students and staff, poor power supply, insufficient ICT equipment and limited internet bandwidth. Among these challenges, inadequate digital literacy ranked highest, indicating that some users lack the necessary skills required to effectively utilize digital tools for learning. Poor power supply and limited ICT infrastructure were also significant barriers. These findings are consistent with Adedoyin and Soykan (2020) who that identified infrastructural limitations and inadequate ICT competencies as major challenges affecting digital learning implementation in developing countries. This finding is in line with Dumbiri and Nwadiani (2020) who noted challenges to effective use of digital educational resources to include poor power supply, limited bandwidth, insufficient ICT equipment and inadequate digital literacy among some students and staff. The findings of hypothesis four further revealed that significant challenges affect the effective use of digital educational resources among Business Education students at Nwafor Orizu College of Education.



Conclusion

Based on the findings of this study, it is concluded that digital educational resources play a significant role in enhancing the scholastic performance of Business Education students at Nwafor Orizu College of Education. The availability and utilization of digital tools such as computer laboratories, spreadsheet applications, and multimedia presentations contribute to improved classroom participation, research skills, academic performance and independent learning. However, the effectiveness of these resources is constrained by several challenges, including inadequate digital literacy, insufficient ICT infrastructure, poor power supply, and limited internet connectivity. Addressing these challenges is essential for maximizing the benefits of digital educational resources in Business Education programmes. Strengthening digital infrastructure and improving ICT competencies among students and lecturers will enhance the integration of technology in teaching and learning processes.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. The management of Nwafor Orizu College of Education should provide more digital educational resources such as e-books, virtual accounting software, QuickBooks, and Sage Accounting to enhance Business Education training.
2. The institution should organize regular training and workshops to improve the digital literacy skills of both students and lecturers.
3. Government and educational stakeholders should improve ICT infrastructure in tertiary institutions by providing adequate computer facilities and reliable internet connectivity.
4. Alternative power supply systems such as generators and solar energy should be provided to address the problem of unstable electricity supply.
5. Lecturers should integrate digital educational resources more effectively into their teaching methods in order to enhance students' engagement and academic performance.
6. Students should be encouraged to utilize a wider range of digital learning tools for research, assignments and collaborative learning activities.



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