



IMPACT OF DIGITAL EDUCATIONAL RESOURCES ON THE SCHOLASTIC PERFORMANCE OF BUSINESS STUDIES STUDENTS IN JUNIOR SECONDARY SCHOOLS, ABUJA

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Abstract

The integration of digital educational resources into education has prompted a transformative shift in the teaching and learning landscape. This study explores "The impact of Digital Educational Resources on the Scholastic performance of Junior Secondary School Business Studies Students in Abuja Municipal Area Council. The population of the study comprised all junior secondary school students studying Business Studies in Abuja Municipal Area Council from four selected public schools covered in the study, and 124 business studies students constituted the sample size for the study. A stratified random sampling technique was used to specify a representative sample of Students from schools within the area council. Three research questions were answered to guide the study, while two hypotheses were tested at a 0.05 level of significance. A 24-item structured questionnaire titled "The Impact of Digital Educational Resources on the Scholastic Performance of Business Studies Students in Junior Secondary Schools." (IDERSPJSSQ), validated by two experts in the field of Business Studies, and Measurement and Evaluation were used for data collection. ($r=0.84$) was obtained. Descriptive statistics, t-test, correlation analysis, and regression analysis were used to analyze the data and test the null hypotheses at a 0.05 level of significance. Findings revealed that students in this field make frequent and extensive use of DERs for their academic activities. Similarly, the analysis revealed that the use of digital educational resources (DERs) has a positive impact on the academic success of Business Studies students, also the findings indicated that there are indeed demographic and socio-economic factors that influence the use of DERs and their impact on the academic success of Business Studies students. Therefore, the study recommended that Stakeholders establish mechanisms for students, teachers, and parents to provide feedback on digital resources. Use feedback to improve usability and effectiveness.

Keywords: Digital educational resources (DERs), Business Studies Students, Scholastic Performance, Junior Secondary Schools, Abuja Municipal Area Council.

Introduction

Technological advancements and digital transformations in the educational landscape have undergone a remarkable evolution. Among the noteworthy changes is integrating Digital Educational Resources (DERs) into traditional classroom settings, which has revolutionized how students access and engage with educational content. According to Barak (2017), effective use of DERs can significantly enhance student engagement and understanding in these fields. This can help bridge the gap between traditional educational practices and the demands of contemporary science and engineering education. This transformation has raised questions about the potential impact of Digital Educational Resources (DERs) on students' academic success, particularly in specific subject areas such as Business Studies.

Meanwhile, the educational system in Nigeria, like many other countries, has witnessed a growing emphasis on the integration of digital technology in classrooms to enhance the teaching and learning process. This shift has been driven by the recognition that digital educational resources have the potential to provide students with interactive and personalized learning experiences, catering to their diverse learning styles according to Afolabi, and Akinyemi (2020). However, while the adoption of these tools has been widespread, a comprehensive understanding of their impact on academic success remains a subject of active research and debate. As a crucial component of the junior secondary school curriculum, Business Studies plays a pivotal role in preparing students for future career prospects and fostering their understanding of economic and business concepts. Given the significance of this subject, it is essential to investigate whether the incorporation of Digital Educational Resources (DERs) enhances the academic achievement of students studying Business Studies in the Abuja Municipal Area Council.



Digital Educational Resources (DERs) are digital tools like apps, software, programs, and websites that help students engage in learning activities and achieve their learning objectives. Digital resources are information or media that are stored or transmitted in digital formats like computers or the internet. These resources can include text documents, images, audio and video files, and data sets. In academic research, digital resources are becoming more critical as they offer quick and easy access to a vast array of information from multiple sources. Using digital tools for education has several advantages, Brown, Dehoney, and Millichap, (2015). Firstly, they offer a more interactive experience compared to traditional printed resources, which enables students to approach topics more creatively and critically. Additionally, digital resources are often free or inexpensive, which can benefit students who struggle with the cost of textbooks and other printed materials. Finally, online resources allow for cross-referencing information from multiple sources, ensuring that the information is both current and factually accurate. However, there are some drawbacks to using digital resources, such as the need for internet access and electrical equipment, which not everyone has. Moreover, by adopting learning resources and technology, students can develop strong self-directed learning abilities. Bollinger, Gertler, and Galiani, (2018), argue that while digital resources have the potential to significantly enhance learning by providing interactive and personalized educational experiences, the effectiveness of these tools is highly dependent on how they are integrated into the curriculum and used by both teachers and students. They can identify what they need to know, locate and utilize online resources, apply what they have learned to solve problems and analyze feedback. This leads to increased productivity and efficiency. Digital educational resources and technology engage students and enhance critical thinking skills.

The Federal Ministry of Education is promoting the use of ICT in teaching and learning processes through its e-learning action plan, which facilitates remote exchange and collaboration (Federal Republic of Nigeria, 2015). With COVID-19 causing widespread school closures and forcing schools to go remote, more countries are turning to digital learning aids to support distance education and ensure continuity of learning. Numerous studies have shown the effectiveness of digital educational resources in enhancing learning outcomes, although the results may vary. According to Tinio (2002), the potential of digital tools, also known as Information and Communication Technology (ICT), can improve the quality of teaching and learning processes in developing countries. Nigeria, as a developing country, should embrace the use of digital aids in the Junior Secondary Schools business studies curriculum as a key factor in improving teaching and learning processes. Also, Bollinger, Gertler, and Galiani, (2018), opined that the use of digital resources in classrooms and their impact on students' engagement and learning outcomes.

Academic performance refers to the level of achievement in education attained by students, teachers, or institutions. The success of any educational program is measured by how well students meet their predetermined objectives. For this study, academic performance in Business studies is a key indicator of success. It is crucial to understand the factors that influence academic performance, including what, why, how, and which factors affect it. According to Olufemi, Adediran, and Oyediran (2018), academic performance is important in producing high-quality graduates who can become leaders and contribute to their country's economic and social development.

In addition, Business studies encompass vocational education that covers areas such as economics, commerce, bookkeeping, accounts, business mathematics, typing, and shorthand. It is a discipline that fosters logical, analytical, and creative thinking and the ability to focus deeply and think with clarity and precision. It serves as the foundation for all scientific and technological education and is the language of business in the social sciences. It acts as a scaffold for the social sciences and provides consistency and completeness to the study of the Arts. The International Dictionary of Education (2001) includes it as both commercial studies and business studies. It is becoming more common for Business Studies students in junior secondary schools in Abuja Municipal Area Council to use digital educational resources. However, there is uncertainty regarding how often they use online platforms, educational apps, and digital textbooks seems worrisome, and the extent digital educational resources impact student academic achievement. Therefore, the impact of digital educational resources (DERs) on the academic performance of Business Studies students is important to understand to improve education in the digital age. Therefore, conducting an empirical study to determine the impact of DERs on the academic performance of Business Studies students in junior secondary schools in Abuja Municipal Area Council is crucial.

Research Questions

The following research questions guided the study:



1. To what extent do junior secondary school Business Studies students in Abuja Municipal Area Council use digital educational resources for their academic activities?
2. What is the relationship between the frequency of using digital educational resources and the academic achievement of junior secondary school Business Studies students in Abuja Municipal Area Council?
3. How do demographic and socio-economic factors influence the use and impact of digital educational resources on the academic success of junior secondary school Business Studies students in Abuja Municipal Area Council?

Hypotheses

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

1. H₀: The use of digital Educational Resources between males and females has no significant difference in the academic achievement of junior secondary school Business Studies students in Abuja Municipal Area Council.
2. H₀: There is no significant correlation between the frequency of using digital educational resources and the academic achievement of junior secondary school Business Studies students in Abuja Municipal Area Council.

Methods

In this study, a descriptive survey research design was utilized to examine the impact of digital educational resources on the scholastic performance of business studies students in junior secondary schools. The population of the study comprised all junior secondary school students studying Business Studies in Abuja Municipal Area Council from four selected public schools covered in the study, and 124 business studies students constituted the sample size for the study. A stratified random sampling technique was used to select a representative sample of Students from schools within the area council. Data was collected using a structured questionnaire, titled "The Impact of Digital Educational Resources on the Scholastic Performance of Business Studies Students in Junior Secondary Schools." (IDERSPJSSQ). The questionnaire consisted of two sections - section A, which contained demographic variables such as gender and age, and section B, which consisted of 24 statements relating to the use of digital educational resources on a 5-point rating scale of Strongly Agree (SA) – 5, Agree (A) – 4, Undecided (U)-3 Disagree (D) – 2, Strongly Disagree (SD) – 1. The face and content validity of the instrument were established by experts in the field of business education and measurement and evaluation. The questionnaire was administered to 20 junior secondary school students in public schools to determine its internal consistency. The questionnaire was administered to 20 junior secondary school students in public schools excluding from the ample of study, to determine the internal consistency of the questionnaire items, Cronbach's alpha statistic was used and a reliability coefficient value of ($r=0.84$) was obtained. The researcher personally administered the questionnaire to the respondents, with the help of two research assistants, and 124 copies retrieved were used for data analysis. Descriptive statistics, t-test, correlation analysis, and regression analysis were used to analyze the data and test the null hypotheses at a 0.05 level of significance. A hypothesis was rejected where the p-value was less than the alpha value of 0.05 and accepted where the p-value was greater or equal to the alpha value.

Results

Research Question One: To what extent do junior secondary school Business Studies students in Abuja Municipal Area Council use digital educational resources for their academic activities?

Table 1: Mean, and Standard Deviation on the extent of using digital educational resources for academic activities (N = 124)

S/N	Item Statement	Mean	SD	Remarks
1	I use digital educational resources such as websites, apps, and online tutorials for my Business Studies coursework.	3.58	.76	Agreed
2	I am proficient with digital devices like computers, tablets, and smartphones during my business studies.	3.34	.58	Agreed
3	I feel at ease utilizing digital educational resources for my	3.21	.76	Agreed



S/N	Item Statement	Mean	SD	Remarks
	academic assignments.			
4.	I am excited to use digital resources to enhance my understanding of Business Studies.	3.58	.76	Agreed
5.	I utilize digital educational resources to complete tasks, including online assignments and accessing digital textbooks for my Business Studies.	3.44	.64	Agreed
6.	I frequently use digital resources like computers, tablets, smartphones, e-books, online tutorials, and educational apps for my academic activities.	3.21	.76	Agreed
7.	I use personal devices and public Wi-Fi to access the internet for academic activities related to business studies.	3.44	.64	Agreed
	Aggregate	3.40	0.61	Agreed

Note. SD = standard deviation

Table 1 presents data on how Business Studies students use digital educational resources (DERs) for their academic activities. The mean responses for the extent of applied (DERs) ranged from 3.21 to 3.58, with standard deviation values ranging from .64 to .76. The aggregate mean and standard deviation were 3.40 and .61, respectively. All measures had a standard deviation below one (1), indicating that the use of DERs exceeds the set criterion aggregate mean score of 3.00 for high utilization. This suggests that Business Studies students often demonstrate highly utilization of DERs for their academic activities.

Research Question Two: What is the relationship between the frequency of utilizing digital educational resources and the academic success of junior high school students studying Business Studies in Abuja Municipal Area Council?

Table 2: Mean, and Standard Deviation on the relationship between the frequency of utilizing digital educational resources and the academic success of students (N = 124)

S/N	Item Statement	Mean	SD	Remarks
8.	I find Business Studies coursework to be easy with the frequent used of digital educational resources.	3.13	.75	Agreed
9.	Using digital resources like websites, apps, and tutorials has a positive impact on my Business Studies coursework.	3.58	.76	Agreed
10.	I find digital resources very helpful for understanding concepts and topics in the Business Studies curriculum.	3.44	.64	Agreed
11.	I received guidance on effectively using digital educational resources for Business Studies from teachers, parents, and online tutorials.	3.58	.76	Agreed
12.	I often rely on digital resources to prepare for Business Studies exams or assessments.	3.06	.78	Agreed
	Academic Success			
13.	My academic performance in Business Studies has been excellent, with high grades and scores due to my use of digital educational resources.	3.06	.78	Agreed
14.	I believe that utilizing digital educational resources positively affects my performance in Business Studies.	3.39	.61	Agreed
15.	I believe my grades in Business Studies would improve greatly by utilizing digital educational resources.	2.96	.75	Agreed
16.	I believe that emerging digital resources and platforms would have a more significant impact on the academic performance of students in Business Studies.	3.44	.64	Agreed
	Aggregate	3.29	0.71	Agreed

Note. SD = standard deviation



Table 2, data was presented regarding the correlation between the frequency of using digital educational resources (DERs) and students' academic success. The average ratings for the frequency of using DERs ranged from 3.13 to 3.58, with standard deviation values ranging from 0.75 to 0.78. Meanwhile, the average ratings for academic success ranged from 2.98 to 3.44, with standard deviation values ranging from 0.61 to 0.78. The overall mean and standard deviation for both usage and academic success were 3.29 and 0.71, respectively. All measures had a standard deviation below one, indicating a positive relationship between the frequency of using DERs and academic success, except for item 15, which had a score of 2.96. This implies that using DERs contributes positively to the academic success of Business Studies students.

Research Question Three: How do demographic and socio-economic factors influence the use and impact of digital educational resources on the academic success of junior secondary school Business Studies students in Abuja Municipal Area Council?

Table 3: Mean, and Standard Deviation on demographic or socio-economic factors that influence DERs and Impact on academic success **((N = 124))**

S/N	Item Statement	Mean	SD	Remarks
17.	I am facing financial difficulties that are preventing me from buying data to access digital educational resources.	3.21	.76	HI
18.	The academic success of business studies students is influenced by the highest level of education attained by their parents/guardians and their use of digital educational resources.	3.58	.76	HI
19.	I always have access to a personal digital device, such as a computer, tablet, or smartphone, for my academic activities.	3.42	.65	HI
20.	My internet connection at home is not suitable for academic purposes and is of poor quality.	3.08	.77	HI
21.	My parents or guardians are supportive of my use of digital educational resources for academic purposes.	3.12	.72	HI
22.	I believe that certain digital resources or platforms are more accessible to students from specific demographic backgrounds.	3.89	.93	HI
	Aggregate	3.38	0.77	HI

Note. SD = standard deviation HI = Highly Impact

Table 3 presents data regarding the demographic and socio-economic factors that affect the use of digital educational resources (DERs) and their impact on the academic performance of junior secondary school Business Studies students in Abuja Municipal Area Council. The responses received on these factors ranged from 3.06 to 3.89, with standard deviations ranging from 0.65 to 0.93. The overall mean and standard deviation were 3.38 and 0.77, respectively. All measures had a standard deviation below one, indicating that there are indeed demographic and socio-economic factors that influence the use of DERs and their impact on the academic success of Business Studies students. This suggests that various factors such as financial difficulties, parental education levels, and access to digital devices affect the use of DERs and ultimately impact the academic success of Business Studies students.

Hypothesis 1: The use of digital Educational Resources between males and females has no significant difference in the academic achievement of junior secondary school Business Studies students in Abuja Municipal Area Council.

Table 4: t-test on difference in usage of DERs on academic achievement based on Gender

Variable	Gender	N	Mean	SD	df	t	p	Decision
Usage of Digital Educational Resources on Academic Performance	Male	64	29.2344	4.35249	122	-.489	.626	Not Significant
	Female	60	29.5833	3.58098				



Note. SD = standard deviation

The data in Table 3 displays the average responses from male (29.23) and female (29.5833) junior secondary school students studying Business Studies regarding the impact of digital Educational Resources on academic achievement. According to the Table, there is no notable distinction ($t = -.489$, $df = 122$, $p > .05$) between male and female students, as the p-value surpasses the alpha value of 0.05. Therefore, the null hypothesis is accepted. Consequently, the use of digital Educational Resources does not make a significant difference in the academic achievement of junior secondary school Business Studies students in Abuja Municipal Area Council, irrespective of gender.

Hypothesis 2: There is no significant correlation between the frequency of using digital educational resources and the academic achievement of junior secondary school Business Studies students in Abuja Municipal Area Council.

Table 5: Correlation between the frequency of using digital educational resources and academic achievement

Variable	N	Mean	Std. Deviation	R	P
Digital Educational Resources	124	23.7823	2.95924	.782**	.000
Scholastic Performance	124	29.4032	3.98558		

** Correlation is significant at the 0.05 level (2-tailed).

Correlations			
		Digital Educational Resources	Scholastic Performance
Digital Educational Resources	Pearson Correlation	1	.782**
	Sig. (2-tailed)		.000
	N	124	124
Scholastic Performance	Pearson Correlation	.782**	1
	Sig. (2-tailed)	.000	
	N	124	124

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.3.10 shows the result for Pearson product-moment correlation between the frequency of using digital educational resources and the academic achievement of junior secondary school Business Studies students in Abuja Municipal Area Council. was found to be moderately Strong positive and statistically significant. The correlation Table indicated that there was a moderately positive and statistically significant relationship between digital educational resources and Scholastic Performance at 0.05 level of significance ($r = .782^{**}$, $p < 0.05$).

Discussion of Findings

The study aimed to investigate how digital educational resources affect the academic performance of business studies students in junior secondary schools within the Abuja municipal area council. The study found that students in this field make frequent and extensive use of DERs for their academic activities. All seven items on the DERs questionnaire revealed a mean score above the benchmark average, indicating that junior secondary school business studies students highly utilize DERs for their academic activities. This finding contradicts Liadi, Adedapo, and Ibrahim's (2022) report that business educators in tertiary institutions in Edo and Delta States do not use TBIR for their instructional delivery. Additionally, the study's findings differ from those of Fakomogbon, Olanrewaju, and Soetan (2015), who reported that lecturers use instructional media less frequently.



The second research question revealed that the use of digital educational resources (DERs) has a positive impact on the academic success of Business Studies students. All 9 items in the questionnaire used to measure DERs showed mean scores above the benchmark average, indicating a correlation between the frequency of DER use and academic success among junior high school students in Abuja Municipal Area Council. This finding is consistent with Karaçöp's (2010) research, which found a positive impact of animation on student achievement, and with Saka's (2010) conclusion that CAI significantly improved academic achievement. Similarly, the finding is in agreement with that of Gomez, and Jara, (2018), who found that the integration of digital technology in classrooms had a positive effect on student learning outcomes, particularly in mathematics and language skills. The study emphasized that the effectiveness of digital resources largely depended on how these technologies were implemented and utilized by teachers and students. The result of the second hypothesis in Table 5 also shows a moderately positive and statistically significant relationship between DERs and Scholastic Performance among junior high school students studying Business Studies in the area. However, the result of the first hypothesis in Table 4 also shows that the use of digital Educational Resources does not make a significant difference in the academic achievement of junior secondary school Business Studies students in Abuja Municipal Area Council, irrespective of gender.

The analysis of the third research question revealed that various factors such as financial difficulties, parental education levels, and access to digital devices can affect the use of DERs and ultimately impact the academic success of Business Studies students. All 6 items in the questionnaire used to measure demographic and socio-economic factors showed mean scores above the benchmark average, indicating that there are indeed demographic and socio-economic factors that influence the use of DERs and their impact on the academic success of Business Studies students.

Conclusion

Based on the findings of this study, the study has brought to light the growing significance of digital educational materials in current teaching methods. The ever-increasing availability and use of digital tools, like online platforms, educational applications, and digital textbooks, have opened up new avenues for students to learn and explore. Many students in Abuja Municipal Area Council are making use of these resources, which have the potential to revolutionize traditional teaching and learning techniques. The integration of digital educational resources has become an essential component of contemporary education, offering fresh prospects for engagement and learning. However, it is crucial for educational stakeholders, such as schools, policymakers, and parents, to work together to tackle the challenges related to digital resource utilization, such as ensuring equal access and quality assurance. By doing so, the Abuja Municipal Area Council can create a more comprehensive and effective learning environment that empowers Business Studies students to excel academically and thrive in an increasingly digital world.

Recommendations

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

1. Educational institutions should provide affordable or subsidized digital devices and internet access to underprivileged students to ensure equal access to digital education materials. Schools should constantly evaluate the effect of digital educational resources on academic performance. They should carry out follow-up studies to monitor long-term impacts and adjust accordingly based on feedback and data.
2. Schools should encourage students to be creators of digital content, promoting critical thinking and problem-solving skills in addition to being consumers of it.
3. Stakeholders should establish mechanisms for students, teachers, and parents to provide feedback on digital resources. Use feedback to improve usability and effectiveness.
4. Encourage parents and guardians to actively support their children's use of digital resources at home. This can include creating a conducive learning environment and monitoring screen time to minimize distractions.
5. Educational policymakers should update the Business Studies curriculum to align with the digital age and incorporate digital resources seamlessly. Relevant and up-to-date digital content should be included in Business Studies courses.



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