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Role of Mobile Technology in Enhancing Business Education Programme in Colleges of Education in Anambra, State

Dr. Ikeanyionwu, Chioma L.
Madichie, Christopher N.
School of Business Education,
Federal College of Education Technical, Umunze.

Abstract

The study investigated the role of mobile technology in enhancing Business Education programme in colleges of education in Anambra State. A descriptive survey design was adopted. The population of the study comprised all the 84 business educators, consisting: 66 from Federal College of Education (Technical), Umunze, and 18 from Nwafor Orizu College of Education, Nsugbe. A structured questionnaire titled " Role of Mobile Technology in Enhancing Business Education Programme" (RMTEBEP) was used to gather data regarding three research questions posed by the study. The instrument was validated by three experts in business education and measurement and evaluation from Federal College of Education, Technical Asaba, Delta, Nigeria. A pilot test was conducted using 20 Business educators from Federal College of Education, Technical, Asaba, Delta. Cronbach Alpha was used for the analysis yielding a reliability coefficient of 0.83, 0.88, and 0.79, indicating the instrument's reliability. A face to face method of questionnaire administration was employed which yielded 93% return rate. Data collected were analyzed using descriptive statistics, including mean and standard deviation, while a t-test was used for inferential analysis. The study found that mobile devices, applications, and internet services facilitate information accessibility, provide platforms for collaboration and networking, and aid in real-time information and feedback. It was recommended, among other things, that colleges of education in Anambra State should partner with service providers, such as MTN and Airtel, to ensure seamless internet accessibility.

Keywords: Mobile Technology, Mobile devices, Applications, Internet services, Business Education

Introduction

The rapid technological innovations in recent years have drastically affected all facets of life. Every sector of the economy is trying to adapt to avoid being caught unprepared by these unprecedented changes. The education sector is no exception. Oke and Fernandes (2020) stress that technological innovations have radically overhauled the pedagogy of teaching and learning. This is why Emeasoba *et al*.

(2022) state that technology has become a new tool that drives the global economy and equips individuals with lifelong learning skills. The COVID-19 pandemic in 2020, which devastated countries worldwide, including developed nations, prompted a reassessment of alternative and enhanced teaching and learning methods to overcome classroom barriers. This led to the increased use of technology for continuous teaching and learning. Technology has demonstrated that teaching and learning can take place without face-to-face physical interaction. Emeasoba *et al*. (2022) assert that traditional pedagogical practices in educational institutions are gradually giving way to new technological systems of teaching.

Technology, according to Williams (2002), refers to the tools, machines, and techniques used to solve problems, achieve goals, and improve processes in human life. In the view of Nwoju (2012), technology is the application of scientific methods to solve everyday problems. Anderson and Rainie (2020) describe technology as digital tools, platforms, and devices that facilitate learning, communication, and content creation in various sectors, including education. Warschauer and Matuchniak (2019) point out that technology provides personalized learning experiences through adaptive learning platforms and bridges gaps for disadvantaged students by offering remote learning solutions. In the context of this study, technology is seen as tools and platforms used to improve teaching and learning outcomes through the use of digital devices.

Mobile technology is one such tool that has emerged from technological advancements (Akudolu & Onyeneke, 2022). It refers to the use of portable devices such as smartphones, tablets, and mobile applications for communication, information sharing and learning purposes. Connecting mobile technology with education has provided a platform for interactive and flexible learning, allowing students to access educational content from anywhere, thereby bridging the gap in access to educational resources and enhancing learning experiences. The integration

of mobile technology in education has been growing rapidly due to its inclusivity and accessibility to a broader audience (Chigona & Mbhele, 2020).

Recent studies have shown that in developing countries about 70% to 95 (depending on the availability of mobile infrastructure and internet connectivity) of the productive age group has access to mobile technology, making it a valuable resource that should be fully harnessed (Akinyemi & Olajide, 2019; Pew Research Center, 2020; International Telecommunication Union, 2021). Mobile technology includes devices such as smartphones, tablets, and wearable devices like smartwatches for notifications and task tracking, applications like Google Classroom, Blackboard, and Edmodo (Ike & Uzodimma, 2020), and internet services like 4G and 5G. Mobile devices are hardware that students and educators use to access educational content. These portable, lightweight devices have evolved to include advanced features such as high-resolution touchscreens, large storage capacities, and high-speed processors, making them capable of handling complex educational tasks. Mobile device like tablet can be used to store financial data and keep records of cases studied.

Mobile applications are software programs specifically designed to run on mobile devices (Ike & Uzodimma, 2020), transforming how teaching is delivered by providing access to specialized learning tools, interactive simulations, and collaborative platforms. According to Ike and Uzodimma (2020), mobile applications like Google Classroom, Blackboard, and Edmodo have transformed how teaching is delivered. These platforms provide business education students with access to specialized learning tools, interactive simulations, and collaborative spaces, allowing them to develop critical skills necessary for the business world. For example, applications such as Google Classroom enable educators to assign and track tasks efficiently, while tools like Blackboard, offer interactive simulations that mirror real-world business environments. Application such as spreadsheets enable

students to organize and visualize data in a clear and concise manner, making it easier to identify patterns, trends, and relationships. The built-in functions and formulas allow students to perform various statistical calculations, such as mean, median, mode, standard deviation, and correlation analysis, to gain insights from data. It also facilities data modeling by providing platform where students can create data models to simulate different scenarios and predict outcomes, aiding in decision-making processes. It also aid in budgeting and forecasting and financial analysis which determines the financial health of an organization and make informed investment decisions.

The internet is another aspect of mobile technology central to the functionality of other mobile technologies in education. With the potential of the internet, students can access vast amounts of online resources, participate in remote learning, and engage with real-time information. Mobile data services such as 4G, 5G, Wi-Fi, hotspots, and broadband technologies enable fast and reliable internet access on mobile devices. The internet plays a crucial role in enhancing business education by providing seamless access to a wide range of online resources and tools. Through the internet, students can participate in interactive learning experiences, such as virtual business simulations, webinars, and case study analyses. These resources offer real-time insights into global markets, financial trends, and managerial strategies, enabling students to stay updated with current industry practices. Furthermore, the internet facilitates collaborative learning environments, where students can work on group projects, engage in discussions with peers from around the world, and receive immediate feedback from instructors. This connectivity and access to real-time data are vital for developing the practical skills and knowledge needed in contemporarily society. Integrating these technologies into Business Education programme can bring transformative potential by enhancing accessibility, interactivity, and engagement.

Business education is regarded as the education that helps individuals adjust to their business environment. Olupayimo (2018) summarizes business education as a discipline that exposes its recipients to diverse curricula and inculcates in them the attitudes, knowledge, skills, and values required in the business world. Oladunjoye (2016) asserts that business education serves three primary functions: equipping individuals to work in an office, teaching as professionals, or becoming self-reliant entrepreneurs. The discipline is offered in university under the faculty of education and in college of education under school of business and vocational education. Given the pivotal role Business Education plays, it is essential to ensure that its lofty objectives are not compromised, despite the challenges facing the programme. This study, therefore, examines the role of mobile technology in enhancing Business Education programme in colleges of education in Anambra.

Statement of the Problem

The traditional approach to Business Education programme in colleges of education in Anambra State has faced several challenges, including limited access to quality educational resources, outdated teaching methods, and a lack of practical engagement for students. With the advent of mobile technology, there is an opportunity to address these issues, similar to what is obtainable in developed economies. Mobile technology has been shown to facilitate positive academic outcomes, accessibility, and student engagement. However, the role of mobile devices, applications, and internet services in enhancing Business Education programme remains underexplored. This study seeks to fill this gap by examining how mobile technology contributes to improving educational outcomes in Business Education in colleges of education in Anambra State. Understanding this will help to arouse stakeholders' interest in recognizing the need to integrate mobile technology into the curriculum.

Objectives of the Study

The main objective of the study is to explore the role of mobile internet in enhancing Business Education programme in colleges of education in Anambra State. Specifically, the study sought to:

1. examine the role of mobile devices in enhancing Business Education programme in colleges of education in Anambra,
2. determine the role of mobile applications in enhancing Business Education Programme in colleges of education in Anambra State,
3. investigate the role of mobile internet in enhancing Business Education Programme in colleges of education in Anambra State.

Research Questions

The following research questions guided the study:

1. What are the roles of mobile devices in enhancing Business Education programme in colleges of education in Anambra?
2. How does mobile applications facilitate in enhancing Business Education programme in colleges of education in Anambra State?
3. What are the roles of mobile internet in enhancing Business Education programme in colleges of education in Anambra State?

Hypotheses of the study

H_{o1}: there is no Statistical significant difference between the mean ratings of business educators from Federal College of Education Technical, Umunze and Nwafor Orizu College of Education, Nsugbe on the role of mobile devices in enhancing Business Education programme in colleges of education in Anambra.

H_{o2}: there is no Statistical significant difference between the mean ratings of business educators from Federal College of Education Technical, Umunze and Nwafor Orizu College of Education, Nsugbe on the role of mobile applications in enhancing Business Education programme in colleges of education in Anambra.

H_{o3}: there is no Statistical significant difference between the mean ratings of business educators from Federal College of Education Technical, Umunze and Nwafor Orizu College of Education, Nsugbe on the role of mobile internet in enhancing Business Education programme in colleges of education in Anambra State.

Methods

The study adopted a descriptive survey design. The population of the study comprised all the 84 business educators, including 66 from Federal College of Education (Technical), Umunze, and 18 from Nwafor Orizu College of Education, Nsugbe. No sampling was conducted due to the manageable size of the population. A structured questionnaire was developed by the researchers and validated by three experts in business education and measurement and evaluation from Federal College of Education, Technical Asaba, Delta.

The instrument was divided into two sections: Section A covered the demographics of the respondents, while Section B consisted of statements designed to answer the study's research questions. These statements were structured using a 4-point Likert scale, ranging from "strongly agree" (4 points) to "strongly disagree" (1 point). A pilot test was conducted, using 20 business educators from Federal College of Education, Technical, Asaba, Delta. The data was analyzed using Cronbach Alpha which yielded a reliability coefficients of 0.83, 0.88, and 0.79, indicating the instrument's reliability.

Face-to-face questionnaire administration was used for distribution, resulting in a 93% return rate, with 78 questionnaires retrieved (17 from NOCE, Nsugbe, and 61 from FCET, Umunze). The retrieved questionnaires were used for analysis. Mean and standard deviation were used to answer the research questions while t-test was used to analyse the hypotheses with the aid of SPSS version 25.

Results

Research Question 1: What are the roles of mobile devices in enhancing Business Education programme in colleges of education in Anambra?

Table 1: Descriptive Statistics on the Role of Mobile Devices in Enhancing Business Education Programme

S/N	Statements	N	Mean	Std. Deviation	Remark
1.	ability to access education content	78	3.65	.479	Agree
2.	ability to store large files	78	3.71	.459	Agree
3.	ability to process information with high speed	78	3.73	.446	Agree
4.	ability to synchronize and asynchronize learning	78	3.64	.483	Agree
5,	ability to perform business simulation and spreadsheet	78	3.81	.397	Agree
6.	ability to receive notifications, task tracking etc	78	3.72	.453	Agree
	Valid N (listwise)	78			

Table 1 states the various roles of mobile devices in enhancing Business Education programme. Statement 5 has the highest mean score of 3.81 while others have varying mean scores of 3.65, 3.71, 3.73, 3.64 and 3.72 respectively. This shows that mobile devices facilitate overall development of Business Education. Also, there is homogeneity in the responses expressed through the standard deviation values.

Research Question 2: How does mobile applications facilitate in enhancing Business Education programme in colleges of education in Anambra State?

Table 2: Descriptive Statistics on the Role of Mobile Application in Enhancing Business Education Programme in Colleges of Education in Anambra State.

S/N	Statements	N	Mean	Std. Deviation	Remarks
7.	ability to create course content	78	3.64	.509	Agree
8.	ability to deliver quizzes	78	3.71	.459	Agree
9.	ability to track students progress	78	3.65	.479	Agree
10.	ability to interact with students	78	3.59	.521	Agree
11.	ability to provide virtual business for decision-making and e-commerce	78	3.63	.486	Agree
12.	ability to collaborate for team work	78	3.68	.470	Agree
	Valid N (listwise)	78			

In table 2, it was revealed that mobile application enhance Business Education programme in Colleges of Education in Anambra, state. Statement 8 with mean score of 3.71 has the highest positive response while statement 3.59 has the lowest mean score, others have 3.64, 3.65, 3.63 and 3.68 respectively. This shows that the statement stated are the roles of mobile application in enhancing Business Education programme. Furthermore, the standard deviation values indicate the homogeneity of the responses.

Research Question 3: What are the roles of mobile internet in enhancing Business Education Programme in colleges of education in Anambra State?

Table 3: Descriptive Statistics on the Role of Mobile Internet in Enhancing Business Education Programme in Colleges of Education in Anambra State.

S/N	Statements	N	Mean	Std. Deviation	Remark
13.	it gives access to real-time information on the global market, helping students to acquaint themselves with recent developments in the business world	78	3.68	.470	Agree
14.	it supports interactive and gamified learning which makes learning more engaging	78	3.71	.459	Agree
15.	it promotes collaboration and networking helping student to work together with counterparts even in diaspora.	78	3.62	.490	Agree
16.	it facilities virtual classrooms and webinars that enable virtual classes, live seminars.	78	3.65	.479	Agree
17,	it gives access to online learning thereby allowing students learn without physical contact.	78	3.67	.474	Agree
18.	it facilitates virtual classes, live seminars and one-on-one mentoring thereby making learning more accessible and flexible.	78	3.74	.439	Agree
	Valid N (listwise)	78			

Table 3 outlines the roles of mobile internet in enhancing Business Education programme. It shows that statement 13 to 18 with mean scores of 3.68, 3.71 3.62, 3.65, 3.67 and 3.74 respectively were agreed by respondents as role of mobile internet in enhancing Business Education programme. However, statement 18 received the highest acceptance with mean scores of 3.74. It reveals also through the standard deviations a homogeneity in the responses**.**

Test of Hypotheses

Hypothesis 1: There is no Statistical significant difference between the mean ratings of business educators from Federal College of Education Technical, Umunze and Nwafor Orizu College of Education, Nsugbe on the role of mobile devices in enhancing Business Education programme in colleges of education in Anambra.

Table 4: Summary of t-test Analysis on the Role of Mobile Devices in Enhancing Business Education Programme in Colleges of Education in Anambra State.

	Colleges of Education	N	Mean	Std. Deviation	df	t	Sig(2-tailed)	Decision
Mobil_Devices	FCE(T) Umunze	61	3.7240	.17450	76	1.196	.235	Accept Ho
	NOCE Nsugbe	17	3.6569	.29149				

The analysis in Table 4 reveals that the p-value of .235 is greater than the .05 at 76 degree of freedom. Conclusion is that there is no significant difference in the mean response of business education lecturers from both institutions on the role of mobile devices in enhancing Business Education programme so the null hypothesis is accepted.

Hypothesis 2: There is no Statistical significant difference between the mean ratings of business educators from Federal College of Education Technical, Umunze and Nwafor Orizu College of Education, Nsugbe on the role of mobile applications in enhancing Business Education programme in colleges of education in Anambra.

Table 5: Summary of t-test Analysis on the Role of Mobile Application in Enhancing Business Education Programme in College of Education in Anambra State.

	Colleges of Education	N	Mean	Std. Deviation	df	t	Sig(2-tailed)	Decision
Mobile_Applications	FCE(T) Umunze	61	3.7268	.17752	76	.955	.343	Accept Ho
	NOCE Nsugbe	17	3.6765	.23914	.			

The analysis in Table 5 shows that the p-value (sig 2tailed) of .343 is greater than .05 at 76 degree of freedom thereby accepting the null hypothesis. This indicates that there is no statistical difference between the mean ratings of the lecturers from FCET, Umunze and NOCE, Nsugbe on the roles of mobile applications in enhancing Business Education programme in colleges of education in Anambra.

Hypothesis 3: There is no Statistical significant difference between the mean ratings of business educators from Federal College of Education Technical, Umunze and Nwafor Orizu College of Education, Nsugbe on the role of mobile internet in enhancing Business Education programme.

Table 6: Summary of t-test Analysis on the Role of Mobile Internet in Enhancing Business Education Programme in Colleges of Education in Anambra State.

	Colleges of Education	N	Mean	Std. Deviation	df	t	Sig (2-tail)	Decision
Mobile_Internet	FCE(T) Umunze	61	3.6885	.19118	76	.895	.374	Accept Ho
	NOCE Nsugbe	17	3.6373	.26507				.

The analysis in Table 6 indicates that the p-value of .374 is greater than the .05 at 76 degree of freedom. Therefore, the null hypothesis is accepted. Also, the t value of .895 supports the acceptances of null hypothesis since it's less than 1.96. In conclusion, there is no significance difference between the mean ratings of the lecturers from the institutions studied on the role of mobile internet in enhancing Business Education programme in colleges of education in Anambra state.

Discussion of Findings

Regarding the role of mobile devices in enhancing Business Education programme, it was found that mobile devices such as smartphones, tablets, and smartwatches facilitate access to educational content. This implies that high-quality educational materials can be accessed through mobile devices. This finding aligns

with the work of Nashirudin (2023), who discovered that mobile devices have revolutionized the educational system by democratizing access to information, thereby yielding a profound impact on education. Additionally, it was found that these devices can store large files, meaning that extensive educational documents like e-textbooks, articles, encyclopedias, and past examination questions can be stored on mobile devices. The study also revealed that the high-speed processors of mobile devices allow for rapid data processing, making them highly efficient. This efficiency helps students harmonize their learning experiences. It was also noted that business simulations and spreadsheets can be executed on mobile devices, which is pivotal for Business Education programme. Finally, mobile devices provide notifications and task-tracking features, enabling students to measure their performance and stay informed about trends in their environment.

On the role of mobile applications in enhancing Business Education programme, it was found that mobile applications can facilitate the creation of course content, thereby improving the delivery of Business Education. These applications also have the capability to deliver quizzes or tests to students. Moreover, mobile applications allow for the tracking of student progress, which fosters closer interaction between students and educators, helping to identify educational needs and make informed decisions. They enable collaboration that fosters teamwork among students. The findings support the work of Ike and Uzodimma (2021), who observed that applications like Google Classroom, Coursera, and Zoom enhance academic experiences. Conclusively, Klimova (2019) found that students felt mobile applications positively impacted their study behavior and were a welcome development.

Regarding the role of mobile internet in enhancing Business Education programme, it was discovered that mobile internet provides real-time information on global trends, which enriches Business Education programme by equipping

students with relevant knowledge that can be applied after graduation. This assertion is consistent with the findings of Koko and Whyte (2023), who found that mobile internet enhances academic performance among Business Education students due to the availability of various embedded search engines. It was also revealed that mobile internet supports interactive and gamified learning, making the educational experience more engaging and, consequently, enhancing Business Education programme. Furthermore, it was found that mobile internet promotes collaboration and networking, enabling students to work with peers, even internationally. The study highlighted that mobile internet facilitates virtual classrooms and webinars, supporting live seminars and workshops. These virtual classes minimize physical contact and reduce costs, thereby improving Business Education programme. This finding aligns with Mohd and Ku (2017), who observed that mobile internet enhances teaching and learning, fostering effective Business Education programme.

Based on the t-test analysis of the study's three hypotheses, it was found that there is no statistically significant difference between the mean responses of lecturers from FCET, Umunze, and NOCE, Nsugbe regarding the roles of the three independent variables: mobile devices, mobile applications, and mobile internet in enhancing Business Education programme. Thus, the study accepted the null hypotheses and rejected the alternatives. This indicates that mobile technology genuinely enhances the effectiveness of Business Education programme in colleges of education in Anambra State. These findings are in line with Nashirudin (2023), who asserts that mobile technology acts as a catalyst, transformer, and reshaper, impacting every facet of life, including education and the business world

Conclusion

Mobile technology offers a significant opportunity to enhance Business Education programme by making learning more accessible, interactive, and relevant to real-world business practices. However, the successful integration of mobile

devices, applications, and internet services into the business education curriculum requires addressing challenges such as digital literacy, infrastructure, and the readiness of educators to adopt new technologies. As mobile technology continues to evolve, its potential to revolutionize Business Education in Anambra State can be fully realized with the right support and implementation strategies.

Recommendations

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

1. The government should provide funding to ensure the procurement of infrastructure for the accessibility and use of mobile technology in business education programs.
2. Colleges of education should partner with private individuals, especially service providers (MTN, Airtel, Globacom, etc.), to ensure seamless internet access.
3. Parents should endeavor to assist their wards with mobile technology to promote positive educational outcomes, especially in business education, where acquired knowledge can be applied in the business world.
4. Curriculum developers should integrate mobile technology to give it adequate recognition as part of the pedagogy in business education programs.

References

Akinyemi, T. M., & Olajide, O. S. (2019). The impact of mobile technology on economic activities in developing regions. *Journal of ICT Development Studies, 15(*2), 45-67.

Akudolu, C. A., & Onyeneke, E. N. (2022). Digital skills gap among Business Education

graduates of tertiary institutions in Anambra state: Implication for programme Re-adjustment. *Nigerian Journal of Business Educator (NIGJBED), 9*(1), 231-235.

Anderson, J. B., & Rainie, L.R. (2020). *Technology and the future of education*. Pew Research Center.

Chigona, W., & Mbhele, P. M. (2020). Mobile devices as learning tools: Assessing the role of smartphones in higher education. African Journal of Digital Education, 15(1), 23-35.

Emeasoba, N.P., Akudolu, C. A., & Agbo, R. C. (2022). Utilization of digital skills for teaching and learning of Business Education in public universities in the South-south, Nigeria. *Nigerian Journal of Business Educator (NIGJBED), 9*(1), 79-90.

Ike, I.C., & Uzodimma, A. C. (2020). Perception of Business educators towards the use of ICT educational application in teaching and learning in public college of education in Anambra State. *COOU Journal of Educational Research*, 6(2), 100-111.

Klimova, B. (2019). Impact of mobile learning on students' achievement. *Journals of Education Science*, 9(2), 90. DOI 10.3390

Koko, M. N., & Whyte, D. F. (2023). Impact of the social media internet network on Business Education students' academic achievement at Rivers state university. ARCN *International Journal of Advanced Academic and Educational Research*, 14(9), 22-38.

Nashirudin, R. A. (2023). The mobile technologies impact on education and digital business models. *OSF Preprints*. 1-10.

Mohd, S. S., & Ku, N. K. (2017). The influence of internet uses on students' academic performance of undergraduate students in Quetta city. Clinical Social Work and Health Intervention, 10(2), 73-94.

Nwoju, J.E. (2012). Educational Technology: Basic Concepts Unpublished lecture note.

Oke, A., & Fernandes, F.A.P. (2020). Innovations in teaching and learning: Exploring the perceptions of the education sector on the 4th industrial revolution (4IR). *Journal of Education and Research*, 9(2), 51-66.

Oladunjoye, T. G. (2016). Optimizing business education for national development. Nigerian *Journal of Business Education,* 3(1), 1-16

Olupayimo, E. O. (2017). Transforming the Nigerian economy: Entrepreneurship education as a strategy. *Nigerian Journal of Business Education*, 4(2), 61-68.

Warschauer, M., & Matuchniak, T. (2010). New technology and digital worlds: Analyzing evidence of equity in access, use and outcomes. *Review of Research in Education*, 34(1), 179-225.

Williams, R. B. (2002). *Technology and Society: A Bridge to the 21st Century*. Prentice Hall.