



MANAGING FEDERAL UNIVERSITY EDUCATION USING NEW TECHNOLOGIES FOR CAPACITY BUILDING IN SOUTHEAST, NIGERIA



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Abstract

The study examined the benefits and the challenges of using new technologies in university management. Two research questions and two null hypotheses guided the study. Data were collected from 5 heads of departments and 283 lecturers from the department of educational management in federal universities in South-East, Nigeria who served as the respondents. The size of the population was manageable, so there was no need for sampling. The instrument used was a structured questionnaire that consisted of 15 items. Using mean, the research questions were answered, while the hypotheses were tested using z-test statistics at 0.05 level of significance. The findings revealed among other things that using new technologies in managing federal universities significantly promote staff capacity building. It was thus recommended that conditions that necessitate teachers and students optimal performance should not be removed from them and that conditions should be provided for effective capacity building among staff and students to meet up with the societal demands for skill acquisition and capacity building.

Keywords: *Managing, Federal University, Education, Southeast, Nigeria, New Technologies, Capacity Building*

Introduction

The major function of education is to develop the total human abilities and behaviours deemed good for the society. The establishment of universities is a response to the need to produce the needed high level manpower for enhanced development. The role of university in providing the needed high level manpower for development was recognized by the Ashby commission's report of 1960. In consonance with this, Ibukun (2017) and Odekunle (2018) posit that universities educate future leaders and develop the high-level technical capacities that underpin economic growth and development. Besides, Mgbekem (2019) reiterates that university education prepares people through teaching and learning for acquisition of knowledge and skills for job performance in civil service, business organizations, private enterprises and corporations as well as individual enterprises.

Globally, there has been a move to mass higher education associated with great diversity of institutions and programmes and a large increase in the number and size of universities because higher education is central to economic and political development.

In Nigeria, the national policy on education (Federal Republic of Nigeria, 2004) stipulates that university education shall make optimum contribution to national development by intensifying as well as diversifying its programmes for the development of high level manpower in the context of the needs



of the nation vis-a'-vis making professional course content to reflect national requirement and embarrassing new technologies and innovation in education sector.

Education, generally is a process whereby individuals acquire skills and knowledge which develop their competences, attitudes and behaviours in order to become productive and functional in various activities that will make them fit properly into society. According to Ozigbo (2022), formal education entails all activities outside the family that are consciously planned, organized, to achieve specific educational objectives. It is also a means to an end and not end itself, an instructional resources and an object for all round development of any individual. It is further a means to understanding, controlling, and altering and redesigning human environment with the view to achieving and sustaining a better quality life. Education has an obligation to transmit from one generation to the next the accumulated wisdom, knowledge, skills, values and attitudes and prepare the young people for their future as members of the society and their active participation in its development (Ozigbo, 2022). The importance and benefits of education is that an informed and participant citizenry that brings about socio-economic development by equipping people for new roles associated with an expanding range of occupation emerge. Without sufficient development of quality human resources with highly competent skills in the institution from various levels of the education sector, this could have great consequences on the finished product of these institutions; owing that education is generally an instrument for national development, social transformation and environmental sustainability (Chapagain, 2015) Therefore, there is the need for managing education in Nigeria through effective human resources development and capacity building using new technologies and innovations which is sine quo non to all round development.

The new technologies that can enhance capacity building among university personnel include: Robotics/Artificial intelligence, Twitter, Zoom Application, Digital libraries, Google cloud among others. Artificial intelligence technology has the potential to revolutionize teaching and learning practices in teacher education. During these recent years, particularly after COVID-19 pandemic, these tools and applications have become more accessible to the teacher education community.

Twitter is a social network platform. It is a micro-publishing system that allows one to compose a short message of about 140 characters, known as a tweet. Buchal, and Songsore, (2019) opined that one can follow someone to receive their tweets. Similarly, others can follow you, and they will receive your tweets. The teacher can initiate information that the students follow to have access to the required instructional information capable of creating active and participatory learning.

Zoom application thus emerges among the 21st-century social media platforms that support university management through effective teaching and learning. Zoom application or cloud meeting is a conference or classroom video platform or software designed by zoom video communication, which supports effective online transactions among different people in different locations. Recent research shows that adaptive learning technologies, are used in teacher education to make teaching and learning practices more effective and efficient.

Digital libraries can provide users with access rare and out of point materials that might be difficult or impossible to locate in physical libraries. Digital libraries also offer verities of search and sorting features, as well as social media features that can connect users with others to discuss topics.

As digital libraries continue to evolve, new features such as multimedia content, data visualization tools and interactive experiences are being added to software to make digital libraries even more engaging and helpful.

Google cloud is the trending classroom technological intervention supporting teaching and learning exercises. It ensures adequate flow of classroom activities, provides a teaching platform that help teachers publish assignments, homework, Questionnaire and test for students and get answers for them in real time. Google classroom has the ability of enhancing classroom teaching and learning thereby promoting effective university administration and quality university output.

Blog is a short form of weblog. The emergence and growth of blogs in the late 1990s coincided with the advent of web publishing tools that facilitated the posting of content by non-technical users. Technological intervention has set a global base in effectively conducting human activities with little difficulty mostly in education but the challenging thing is making the tools available to the personnel in



education industry (Abdullah, Faisal, and Tarequ, (2021). Technological intervention in capacity building offers an innovative means in different levels of education. Davison and Lazaros (2015) contend that pedagogical functionality in using technological intervention tools involves task collaboration, planning, search for information and assessment, and access to a virtual environment on a discussion board which are really available to the appropriate group. Nonetheless, these interventions are seen as technological tools that could be effectively used to harmonize efficient management through adequate planning strategies. These tools make the whole world to be a global village.

Globally, both economic, social, political and educational management using hi-technological gadgets are connected. Thus, as a micro-society whose activities reflect the circular macro society, the school needs to imbibe the trend of using emergent technological application software for overall management of the school. Human society in this present age is known to use technology to carry out daily transactions in all sectors of the economy, including education (John, 2021).

In the words of Raduan and Suzana (2019) technology as comprises the basic Knowledge of sub-systems, technical Support systems (software), and capital embodied technology (hardware). In essence, technology as a system is created by humans that uses an organization's knowledge to produce objects and techniques to attain specific goals. Technology widens the horizon of a society in economic, social, political, religious and educational Systems, leading paradigm shifts in enhancing the academic activities and open hidden and untapped opportunities for effective and efficient university Management. Technological tools and their application in educational System provide helpful information for the users and promote efficient university management through effective communication

It has been observed by Zydney, J.M. & Seno K.K. (2019) that communication technology has contributed to students' skill development. Learning creativity, Innovation, and high-technology thinking. They further explained that emergent technological tools and gadget have greatly affected the globe and turned society into a global community through the introduction of google cloud, Visual reality, electronic Mail, Money transfer worldwide web, Google search, quick interchange of ideas through chart groups, video conferencing, blog, teleconferencing use of gamification for Learning, and Mobile app technologies.

Education prepares a society for proper global perspective where intellectual endowments are valued more than anything else. In Nigeria today a lot of things are done upside down and the need for education and its value has little or no consideration. There is therefore, serious need for skill acquisition and capacity building for sustainability of the society.

The term capacity according to Chapagain (2015) entails an ability to perform, deliver, maintain and strengthen any work. This is so because capacity building is alive and functional. This is because capacity building (is closely related to empowerment) gives substance to empowerment which is a process of gaining strength, confidence and vision to work for positive change in lives, individually and together with others. It is a process by which workers of organizations are enabled to achieve something (new power). According to Ogadele (2021), Capacity can be defined as abilities, skills, understandings, attitudes, values, relationships, behaviours, motivations, resources and conditions that enable individuals, organizations, network sectors and broader social systems to carry out functions and achieve their development objectives over time. Capacity building (CB) which is synonymous with capacity development (CD) is an approach to develop one's own potentially in order to enhance his/her performance and output (Chapagain, 2015). According to Adeniji (2013) "Capacity" is understood as the ability of people, organizations and society as a whole to manage to their affairs successfully. University education in Nigeria today has largely been of mixed fortune Adedayo, (2013). In the view of Wang & Liu (2022). It is no understatement to say that the ability of universities to act as engines of growth and development is being threatened, more than ever before by poor capacity building. Kolawole (2011) laments that Nigeria has never experienced the type of unemployment problem it is presently facing and does not seem to be in any position to address it. Unemployment is a cross cutting and multidimensional concept which has, over time, been a subject of great debate in Nigeria. Universities have been regarded as key institutions in the process of social change and development. The most explicit role they have been allocated is the production of highly skilled labour



and research output to meet perceived economic needs in the society. University education in Nigeria today has largely been of mixed fortune. It is no understatement to say that the ability of universities to act as engines of growth and development is being threatened, more than ever before by poor capacity building. Kolawole (2011) laments that Nigeria has never experienced the type of unemployment problem it is presently facing and does not seem to be in any position to address it. The problem of this study, therefore, put in a question form is: In what ways could university education be managed for capacity building?

Research Questions

What are the benefits of using new technologies in managing university education for capacity building in federal universities in Southeast, Nigeria?

What are the challenges facing using new technologies in managing education for capacity building in federal universities in Southeast, Nigeria?

Hypotheses

There is no significant difference between the mean ratings of the HODs and lecturers on the benefits of using new technologies in managing university education for capacity building in federal universities in Southeast, Nigeria.

There is no significant difference between the mean ratings of the HODs and lecturers on the challenges in using new technologies in managing education for capacity building in federal universities in Southeast, Nigeria

Methods

The study adopted descriptive survey research design. The researchers considered this design the most appropriate because pre-existing phenomenon were investigated. This study was delimited to federal universities in Southeast Nigeria, which comprises five states, namely: Abia, Anambra, Ebonyi, Enugu, and Imo. The population of the study comprised 288 respondents which include 5 heads of departments and 283 lecturers in the department of educational management in the five federal universities under in Southeast, Nigeria. The population was manageable so there was no sampling. A structured questionnaire of 4 point likert type on the benefits and challenges of managing education for capacity building (MECB) was developed and used for the study. The reliability coefficient of the clusters all together was 0.87. The questionnaire was subjected to face validation by three experts, two from the department of educational administration and planning and one from the department of measurement and evaluation, all from university of Nigeria Nsukka. The data collected were analyzed using mean, and Chi-Square statistics. The mean were used to answer the research questions. Any item with a mean rating of 2.50 and above was regarded as agreed, while any item with a mean rating less than 2.50 was regarded as disagreed. The Chi-Square statistics was used to test the two null hypotheses at 0 .05 level of significance. Any hypothesis whose significant level was less than or equal to 0 .05 level of significance, was rejected, while a hypothesis with significance level greater than .05 level was accepted.

Results

Research Question 1: What are the benefits of using new technologies for capacity building in federal universities in Southeast, Nigeria?

Table 1: Mean ratings of the respondents’ opinions on the benefits of using new technologies for capacity building in federal universities in Southeast, Nigeria

Benefits In Using New Technologies For Capacity Building						
S/N	ITEMS	HODs		LECTURERS		
		X	REMARK	X	SD	REMARK
1	New technologies provides helpful information for users	3.54	Agree	3.56		Agreed
2	Promote efficient university administration	3.71	Agree	3.56		Agreed
3	Enhances practical activities among staff	3.56	Agree	3.58		Agreed
4	Opens hidden and untapped opportunities for better university management	3.62	Agree	3.54		Agreed
5	Leads to increased productivity through quick dissemination of information	3.67	Agree	3.58		Agreed
6	Support efficient teaching and learning	3.53	Agree	3.53		Agreed
7	Contributes to lecturers’ and students’ skill development	3.56	Agree	3.55		Agreed
8	Leads to high technological thinking among students	3.58	Agree	3.59		Agreed
9	Quick interchange of ideas	3.67	Agree	3.58		Agreed

X_H =mean for HODs X_L =mean for Lecturers

Data presented in Table 1 showed that the mean ratings of the respondents on the nine (9) identified items relating to the benefits of using new technologies for capacity building in federal universities in Southeast, Nigeria had mean values which were greater than the acceptable mean limit of 2.50 on a 4-point scale. The data in the table indicated that the respondents agreed that all the nine (9) items are the benefits of using new technologies for capacity building in federal universities in Southeast, Nigeria.

Research Question 2: What are the challenges in using new technologies for capacity building in federal universities in Southeast, Nigeria?

H_0

There is no significant difference between the mean ratings of the HODs and lecturers on the challenges in using new technologies for capacity building in federal universities in Southeast, Nigeria

Table 2: Mean scores of the respondents' opinions on the challenges in using new technologies for capacity building in federal universities in Southeast, Nigeria.

Challenges In Using New Technologies For Capacity Building					
S/N	ITEMS	HODS		LECTURERS	
		\bar{X}	REMARK	\bar{X}	RMK
10	Limited access to network	3.25	Agree	3.21	Agree
11	Inadequate ICT facilities in schools	3.38	Agree	3.36	Agree
12	Poor knowledge of computer by the students	2.24	Disagree	2.26	Disagree
13	Lecturers' Poor knowledge of new technologies	3.32	Agree	3.42	Agree
14	Inability of some students to purchase ICT tools	3.49	Agree	3.08	Agree
15	Lukewarm attitude of some lecturers to acquire ICT skills	3.36	Agree	3.14	Agree

X_H = mean for HODs X_L = mean for Lecturers

Table 2 showed that the mean ratings of the respondents on the six (6) identified items relating to the challenges in using new technologies for capacity building in federal universities in Southeast, Nigeria had mean values ranging from 3.25 to 3.49 and 3.08 to 3.36 for HODS and Lecturers respectively except item 12 which has mean scores that are below the cutoff point for both HODS and lecturers. This means that the two groups are in agreement that all the items except item 12 are among the challenges in using new technology for capacity building except item 12 which has mean rating below the cutoff point for both HODS and lecturers.

H0₁: There is no significant difference between the mean ratings of the HODs and lecturers on the benefits in using new technologies for capacity building in federal universities in South-East, Nigeria

Table 3: χ^2 Analysis of HODS and lecturers on the benefits in using new technologies for capacity building in federal universities in South-East, Nigeria.

Variables	N	Df	X	SD
HODS	5	4	3.52	0.47
LECT	283	4	3.56	0.42
Total	288		7.08	0.89

χ^2 Cal = 3.432, χ^2 Crit/tab = 6.581 df = 4, p = 0.05

Table 3 clearly shows that χ^2 calculated value of 3.432 is less than χ^2 critical/table value of 6.581, the null hypothesis of no significant difference between the mean ratings of HODS and lecturers on the benefits of using new technologies for capacity building in federal universities in South-East, Nigeria, was accepted which means no significant difference exists between the perception of HODs and lecturers on the benefits of using new technologies for capacity building in federal universities in Southeast, Nigeria

Hypotheses 2: There is no significant difference between the mean ratings of the HODs and lecturers on the challenges in using new technologies for capacity building in federal universities in Southeast, Nigeria

Table 4. X^2 Analysis of HODS and lecturers on the challenges in using new technologies for capacity building in federal universities in Southeast Nigeria

Variables	N	Df	X	SD
Deans	5	3	3.52	0.47
HODS	283	288	3.56	0.42
Total	288		7.08	0.89

X^2 Cal = 2.893 X^2 Crit./tab = 7.815 df = 3, p = 0.05

Since X^2 Calculated of 2.893 is less than X^2 Crit./tab value of 7.815 the null hypothesis is accepted. This means that no significant difference exists between the perception of HODs and lecturers on the challenges in using new technologies for capacity building in federal universities in South-East, Nigeria.

A survey on the challenges in using new technologies for capacity building in federal universities in Southeast, Nigeria, showed that there are a lot of challenges that make it practically impossible in making adequate use of new technologies for capacity building in federal universities in Southeast Nigeria. It has been observed in analysis of research question two that poor access to network, inadequate funding, inadequate ICT facilities are among the challenges in using new technologies for capacity building in federal universities in Southeast Nigeria. This finding agrees with the findings of Ukpong (2004), Hansen (2013) and Obanya (2013) who discovered that there is poor skill acquisition among Nigerian graduates leading to over dependence on white collar jobs resulting in poverty, hunger, unemployment and other corrupt practices among Nigerian youths. The findings also showed that one living within one's means could be an effective strategy for curbing corruption in Nigerian universities.

Discussion of the Results

The results of this study are discussed under the following sub headings;

Benefits using new technologies for capacity building in Federal Universities in South-East, Nigeria

The analysis of data in Table 1 shows that the mean ratings of the respondents on the nine (9) identified items relating to the benefits in the use of new technologies for capacity building in federal universities in South-East, Nigeria, had mean values which are all greater than the cut-off point of 2.50 on a 4-point rating scale. The data in the table indicated that the respondents agreed that all the 9 items are the benefits of using new technologies for capacity building in federal universities in South East, Nigeria. Table 3 also shows that the X^2 calculated value of 3.643 is less than X^2 critical /table value of 7.815 therefore; the null hypothesis of no significant difference (H_{01}) was accepted. This finding is in line with that of Abdullah, Faisal, and Tareq (2021) and Akinsolu, (2015) who opined that technological intervention in human resource management and capacity building offers an innovative means in different levels of education which has set global base in effectively conducting human activities.

Challenges facing the use of new technologies for capacity building in federal universities in Southeast Nigeria

The analysis of the data in Table 2 shows that the mean ratings of the respondents on the 6 identified items relating to the challenges militating against the use of new technologies for capacity building in federal universities in Southeast Nigeria had mean values ranging from 3.25 to 3.49 and 3.08 to 3.42 for the HODs and lecturers respectively which are all greater than the cut-off point of 2.50 on a 4-point rating scale. The data in the table indicated that the respondents agreed that all the 6 items are the challenges militating against effective use of new technologies for capacity building in federal universities in South East, Nigeria.

Table 4 shows that the X^2 calculated value of 2.893 is less than X^2 critical /table value of 7.815 therefore, the null hypothesis of no significant difference (H_{01}) was not rejected. This showed that there was no significant difference ($P > 0.05$) between the mean responses of the HODs and lecturers with regards to the challenges militating against effective use of new technologies in federal



universities in South East, Nigeria. This finding agrees with the findings of Adedayo (2013) and Aderonke (2024) who observed that poor funding, poor network, and inadequate ICT facilities limits the use of new technologies for capacity building in federal universities in Nigeria.

Recommendations

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

- Government and university administrators should organize seminars and workshops for lecturers and students on the use of new technologies for capacity building.
- Technicians should be employed in universities as resource persons for capacity building
- Collaborative teaching should be encouraged among lecturers for capacity building.

Conclusion

From the results and discussion of the findings, the researchers concluded that corruption has spread to all sectors in Nigeria including education. The resultant effect is that universities produce graduates who cannot satisfy the yearning need of education for sustainable national development and capacity building among students and lecturers due to poor administration in all sectors of Nigerian society. It therefore, becomes imperative on the part of university administrators to form synergy with other stake holders in the university education system towards embarking on sustainable school business ventures for self-reliance. The researchers therefore concluded that fund should be made available to university administrators to help them embark on strategies towards total eradication of unemployment among university graduates through capacity building.

References

- Abdullah, A.A., Faisal, M.A. and Tarequ, E.A.A. (2021). Pre teachers' perceptions of the effectiveness of Microsoft teams for remote learning. *International Journal of Educational Psychology* 14(9) 108-121
- Aderonke, B. (2024). Impact of technology intervention on students' academic performance in rural Nigerian schools. *Journal of educational management* 6(4) 290-301
- Abdulah, A. A. Faisal, M.A. and Targu, G.B. (2021). The use of technology in English Language learning; a literature review. *International Journal of research in English education* 2(3) 115-125
- Akinsolu, A.O. (2015). Teachers and students' performance in Nigerian secondary schools. implication for planning. *Florida Journal of educational administration and policy*; 3(2), 86-104
- Adedayo, A.A. (2013). "Capacity building beyond intractability. Retrieved from <http://www.beyondintractability.org/essay/capacity-building>
- Ogadele, C.A. (2021). Human resource and institutional capacity building through new technologies. *Journal of education* 4(1), 349-558
- Buchal, R; & Songsore, E. (2019). Collaborative Knowledge building using Microsoft share point. *Journal of educational management* Retrieved from <https://doi.org/10.24908/pcea.v0i0.1343>
- Kaukab, A.A., & Nayab (2018). Effectiveness of Google: teachers' perception. *Prizren Science Journal*, 2(2), 52-66
- Kolawole R.G. (2011). Mobile phone technology adoption and classroom management in higher learning institutions in Tanzania: challenges and implications. *International Journal of information technology and business management*, 36 (1), 34-51
- Davison, R.M. & Lazzaros, C.A. (2015). Impact of Facebook usage on students' academic achievement: Role of self-regularization and trust. *Journal of Research in Education Psychology* 9(3), 961-994
- Wang, Q.H.L. & Liu, M. (2022). Using the Facebook group as a learning management system: An exploratory study. *Journal of Education Technology* 4(3) 428-438
- Zydney, J.M. & Seno K.K. (2019). Creating a community of inquiry in online environment: An exploratory study on the effect of a protocol on interactions within asynchronous discussions. 3(4) 77-87



- Chapagain, P.U. (2015). Human resource management and capacity building through appreciative inquiry approach in achieving developmental goals. *Journal of educational management* 2(4) 67-79
- Ozigbo, C.U. (2022). Sustainable investment in education. A key to national development. *Journal of resourcefulness and distinction* 4(9) 17-49
- FRN (2024). Federal Republic of Nigeria National Policy on Education
- Ibukun, P.C. & Odekunle C.C. (2017) Creating entrepreneurial universities: Organizational pathways for transformation. Retrieved from <http://www.google.com>
- John, C.J. (2021). Training and multiplier effect on productivity path way to sustainability. *Journal of Education management* 2(4) 17-19
- Adeniji, A.A. (2010). Human Resource instructional capacity building in developing countries. *Journal of educational management* 3(4) 114-126
- Raduan, O.A. & Suzana, V.U. (2019). Managing education for sustainable development: An emerging role in Nigeria. Retrieved from <https://doi.org/10.24908pceea.v0i0.1343>