



Online Instruction in South-Eastern Universities: Prospects, Challenges, and Strategies

¹Onwumere, Michael, ²Chibuikem S. Ohanaka, ³Lilian O. Nwandu, ¹Ngele Cletus Ezeoke, ⁴Ugwujor Duke Ngozi

¹Department of Vocational and Technical Education,
Faculty of Education,

Alex Ekwueme Federal University, Ndufu-Alike Ikwo, Ebonyi state,

²Department of Educational Management and Foundational Studies,
Faculty of Education,

Alex Ekwueme Federal University, Ndufu Alike Ikwo, Ebonyi State, Nigeria,

³Department of Business Education,
Faculty of Education,

University of Nigeria, Nsukka,

⁴Department of Business Education

Federal College of Education, Eha-Amufu, Enugu state.

ABSTRACT

The availability of new telecommunication technologies, such as the World Wide Web and interactive videoconferencing, has increased interest among learners, especially adult learners in the university, thus making online instruction possible. Therefore, this paper focuses on analysing the prospects and problems of online instruction in Nigerian universities. Three research questions guided the study, using a descriptive research survey. The population of the study was made up of all the 560 members from Universities in Abia state and 263 members from Universities in Enugu state. A sample size of 269 respondents was used, using Taro-Yamane's formula. An instrument for data collection was a researcher-made questionnaire, duly validated and the reliability tested, using Cronbach's alpha, which yielded a coefficient index of 0.81. The researchers and 7 research assistants administered and retrieved the questionnaire. A 97% return rate was achieved. Mean and standard deviation were used to answer the research questions. The analysed data identified the prospects and problems of online instruction in Nigerian universities. However, it was recommended among others that the government should positively demonstrate a more serious attitude to the use of online instruction in schools with the provision of adequate funding and facilities.

ARTICLE INFO

Article History

Received: September, 2024

Received in revised form: November, 2024

Accepted: January, 2025

Published online: March, 2025

KEYWORDS

Online instruction, Prospects, Problem,
Students and University

INTRODUCTION

Education is a veritable tool for human and national development, however for the development to be sustainable, it must meet the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 2007). This implies that the educational programmes or curriculum have to be efficiently and effectively implemented to meet the needs of the present and future generations in the

three interrelated areas of economy, human development and environment. To attain this, Effective curriculum delivery systems of any nation has to be aligned with education in the 21st century which calls for a paradigm shift in the delivery system to match the new knowledge, attitudes, skills and technologies that are emergent to meet the demands of the knowledge economy and global competitiveness. Online

Corresponding author: Onwumere Michael

✉ onwumeremichael@gmail.com

Department of Technical and Vocational and Technical Education, Alex Ekwueme Federal University, Ndufu-Alike Ikwo, Ebonyi State.

© 2025. Faculty of Technology Education. ATBU Bauchi. All rights reserved



instruction which is an electronic learning is one of such effective curriculum delivery systems.

Online instruction refers to courses that are delivered electronically through the help of the internet. It means there is no physical contact or face to face contact classroom session. Online classroom session can be in the form of videos and transcript. For Wikipedia (2011), online instruction is the computer and network-enabled transfer of knowledge and skills. Online instruction processes and applications include web-based learning, computer – based training, virtual classroom opportunities and digital collaborations. Hedge and Hayward (2004) defined it as an innovative approach for delivery electronically mediated, well designed, learner centered and interactive learning environments to anyone, anyplace, anytime by utilizing the internet and digital technologies in line within instructional design principles. It is all about learning with the use of computer and the internet. In this age, learning with the use of computer is simply online ways of acquiring knowledge through the internet or through the offline CD-ROM. The online involves the use of internet explorer/Navigator. It may be inform of Audio, Visual, and or Audio/Visual. The applications and process of e-learning include computer-based learning, web-based learning, virtual classroom and digital collaboration where content is delivered via the internet, intranet/extranet, audio and or videotapes, satellite TV and CD-ROM (Islam, 2007).

As Onuigbo and Onuigbo (2006), put it “the world is moving through them information superhighway with a network of computers that enable one to obtain relevant information for specific purposes”. With Online instruction, teachers and students alike have access to unprecedented amount of quality and authentic information in all areas of study. The urge to embark on e-learning is still a dream to some educational institution, because their ICT infrastructures are very weak. The rapid expansions of ICTs in Nigeria offer an opportunity to consider its use in the promotion of tertiary education. It offers students considerable benefits including increased access to learning

opportunities, convenience of time, and place, making available a greater variety of learning resources, improved opportunities for individualized learning and emergence of more powerful cognitive tools (Khan, 2006; Pierre, 2008). It is seen as a key tool in acquiring, processing, and disseminating knowledge (Adedoyin, Akinuwesi and Adegoke, (2008). It offers increasing possibilities for codification of knowledge about teaching activities through being able to deliver learning cognitive activities anywhere, and anytime (Larsen, & Vincent-Lancrin, 2005). At this juncture, Online instruction, with ICT facilities is a particularly useful tool in equipping the teachers with desirable techniques for effective teaching. They constitute such a variety to the resources and styles in the handling of instruction that learning actually becomes fun and the learner excited. When the learner is interested, he is motivated to learn.

Despite all these benefits of online instruction, a lot of factors may impede its utilization at the tertiary level of education. Ajadi, Salawu and Adeoye (2008) in their study on the relevance of e-learning in the position of distance education in Nigeria outline poor ICT infrastructure and other socio-economic reasons like inequality of access to the technology itself by students, the cost of a personal computer (PC) and laptop, technophobia, internet connectivity, software and license cost, maintenance and technical support, and electricity. Nwankpa (2004) in his study on impediments to the growth of Information Communication Technologies in least developed countries of which Nigeria is one listed some of the impediments as ICT education/limited human capital, (teachers) poor ICT infrastructure, weak policy/regulatory framework. Awolola and Tejumola (2008) in their study on enhancing quality teaching and learning through the effective use of Information Technology listed two basic barriers as teachers not being computer literate and non-availability of computers in school. On his part, Gyang (2008) in a study on Information and Communication Technology (ICT) Education Section Reform in Nigeria outlined the non-availability of hardware facilities, lack of funds, lack of skilled staff and cultural/societal attitudes

Corresponding author: Onwumere Michael

✉ onwumere michael@gmail.com

Department of Technical and Vocational and Technical Education, Alex Ekwueme Federal University, Ndufu-Alike Ikwo, Ebonyi State.

© 2025. Faculty of Technology Education. ATBU Bauchi. All rights reserved



as impediments. While agreeing with Gyang on lack of funds; Obanya, (2002) states that in the United States while a personal computer may cost less than a month wages, an average Nigerian worker may require more than six months income to buy one. In their study on "blind spots" in pre-primary education in the South Eastern States. The call for utilization of online instruction in various educational sectors / unit on instructional delivery is to infuse and inject efficiency and effectiveness in Curriculum implementation. However, in developing countries like Nigeria, e-learning is challenged with the problem of material devices such as computer, computer laboratories, internet and email facilities, video phone systems and teleconferencing devices, fax and wireless applications, digital library, digital classrooms, multimedia systems and the problem of multimedia courseware development among others. Other studies indicate that there is dearth of professional trained and skills teachers for Online instruction, lack of facilities, infrastructures, and equipment (Jegade and Owolabi, 2008). It is against this background that the present study is to be carried out to determine the prospects, challenges, and strategies to improving online instruction among lecturers in South-Eastern Universities, Nigeria.

Statement of the Problem

Universities are established to equip students with both physical and intellectual skills for them to be self-reliant and useful members of the society. They are responsible for the national development through intensifying and diversifying its programmes for the development of high-level manpower within the context of the needs of the nation. If this objective must be achieved, then efforts should be made to ensure that media of instruction such as e-learning are effectively and efficiently utilized in the universities.

In addition, effective and efficient e-learning in Nigerian universities would be ensured if the functional e-learning facilities are available. However, most universities find it difficult to effectively utilize e-learning and this leads to poor learning and consequentially high failure rate in both internal and external examinations. This may

have resulted from poor existing learning facilities available in the Nigeria universities. Hence, the need to assess prospects of e-learning, challenges of e-learning and strategies to improving online instruction among lecturers in South-Eastern Universities, Nigeria.

Purpose of the Study

The general purpose of this study was to determine the prospects, challenges, and strategies to improving online instruction among lecturers in South-Eastern Universities, Nigeria. Specifically, the study sought to:

1. examine the prospects of online instruction by lecturers in South-Eastern Universities;
2. identify the challenges of online instruction to lecturers in South-Eastern Universities; and
3. determine the strategies for improving online instruction among lecturers in South-Eastern Universities.

Research Questions

The following research questions were posed and answered for study.

1. What are the prospects of online instruction by lecturers in South-Eastern Universities?
2. What are the challenges of online instruction to lecturers in South-Eastern Universities?
3. What are the strategies for improving online instruction among lecturers in South-Eastern Universities?

CONCEPTUAL FRAMEWORK

Prospects of Online instruction

Online instruction is regarded as one of the best among techniques of instruction. It is a system for conveying information in computerized age and its benefits include:

- a) It improves the viability of learning and capabilities by means of straightforward entry to an enormous measure of information.
- b) Online instruction inspires scholars to converse with different scholars, and also trade and regard diverse purpose of perspective.
- c) Online instruction facilitate correspondence furthermore enhances the connection that manages learning.

Corresponding author: Onwumere Michael

✉ onwumeremichael@gmail.com

Department of Technical and Vocational and Technical Education, Alex Ekwueme Federal University, Ndufu-Alike Ikwo, Ebonyi State.

© 2025. Faculty of Technology Education. ATBU Bauchi. All rights reserved

- d) Online instruction makes accessible supplementary prospect for communication between the learner and instructor amid content conveyance.
- e) It encourages more viable training and offer noteworthy points of interest over conventional educating techniques
- f) Online instruction allows the investigation of much adaptable training courses with abundantly lessened requirement to attend classes.
- g) Online instruction gives educators few methods for associating with scholars and to give them immediate response.

Challenges of online instruction in universities

The following are challenges facing effective implementation of online instruction and they includes;

1. Insufficient allocation of fund to education: This inadequacy is compounded by the meager budgetary allocations for education in recent years, which have been steadily declining over the past two decades. Moreover, due to the general level of poverty in the country, the contributions of rural communities and households to support educational resources have been grossly negligible
2. Increased Demand on Time: Instructors and trainers are generally comfortable with creating and presenting instructional materials either in Online instruction environment that takes a lot of time.
3. Overcoming Barriers of Institutional Culture: There are cultural barriers for both learners and instructors that must be overcome in order to use online instructions. The components of online instructions require a large amount of self-discipline on the part of the learners because learning in that setting is largely independent.
4. Inadequate Infrastructure: Limited availability of infrastructure especially telecommunication networks and services, which require development and expansion continue to elude our educational system. Without stable power in place, it becomes extremely difficult to keep high-tech equipment such as computers, multimedia, server systems, Internet, clever boards etc to function optimally.
6. Limited access to Internet facilities: In Nigeria, the cost of acquiring, installing and maintaining internet services are quite huge. Such exorbitant cost can only be afforded by government and some private institutions where tuition fees are better imagined that mentioned.

Strategies for Optimizing Online Instruction in Universities

Some of the approaches that could be used in strategies for optimizing online instruction in universities are:

1. Prioritization and optimal investment in science and technology, research and development (R & D), and education to promote and enhance technological competencies.
2. Online instruction has to be mainstreamed into the university curriculum, from fresh year to final year. It should not be an elective or a basic GS course.
3. Continuous programme of retooling academic and non-academic staff in online instruction skills and practice.
4. A deliberate robust and dynamic policy and programme of university upgrade by the Nigerian University Commission (NUC) pivoted on online instruction.
5. Optimal university funding and provision of conducive learning environment including critical online instruction infrastructure through public-private partnership (PPP).
6. The provision of adequate and stable power generation and transmission to the universities.
7. An optimal maintenance and sustainability culture is to be entrenched.
8. Integration of mobile computing devices such as iPods, MP3 players, personal, digital assistants, e-book readers, tablet PCs and modules into online instruction platforms to make courses of instructions more accessible and portable.

Corresponding author: Onwumere Michael

✉ onwumere michael@gmail.com

Department of Technical and Vocational and Technical Education, Alex Ekwueme Federal University, Ndufu-Alike Ikwo, Ebonyi State.

© 2025. Faculty of Technology Education. ATBU Bauchi. All rights reserved



9. Effective collaboration and partnership among all stakeholders in the public and private sector.
10. The Federal Ministry of Information Technology, Federal Ministry of National Planning and National Planning Commission should be more proactive in making digitalization a cardinal national development policy, plan, programme and project of all national institutions including education.

The efforts of federal and state governments should be of paramount importance towards ensuring proactive roles in creating a conducive environment for teaching and learning. There is therefore great need to improve upon the funding allocation for our educational development, hence until the Nigerian educational system begins to receive federal allocation of up to 30% of our national budget, we will continue to lag behind other developing nations in terms of online instruction, ICT development and quality of Teacher in education delivery.

METHODOLOGY

The study adopted survey research design. This design was considered suitable because the opinion of a representative sample of respondents was sought using questionnaire and the finding was generalized on the entire population. The population of the study was made up of all the 560 members from Universities in Abia state and 263 members from Universities in Enugu state. A sample size of 269 respondents was used, using Taro-Yamene's formula to draw from the population across the Universities used. Instrument for data collection was researchers – made questionnaire, duly validated and the reliability tested, using Cronbach alpha, which yielded a co-efficient index of 0.81. The instrument for data collection was a 24-item bi-polar structured questionnaire titled: South-Eastern Lecturers Online Instruction Questionnaire

(SELOIQ). The questionnaire was developed from literature by the researchers and used for data collection. The SELOIQ had a four-point response scale of strongly agreed (SA), Agreed (A), Disagreed (D) and strongly disagreed (SD) with corresponding values of 4, 3, 2, and 1 respectively.

However, the instrument was face validated by three University lecturers: one from Michael Okpara University of Agriculture Umudike, Abia State, one from Imo state University and one from Enugu state university. Their corrections and suggestions were utilized to improve the initial copies of the questionnaire to produce the final copies. Cronbach Alpha reliability method was adopted to determine the internal consistency of the questionnaire items using data collected from 25 lecturers in Kogi State who have similar characteristics with the target audience due to their training, experience and profession but were not involved in the study. A Cronbach Alpha coefficient of .81 was obtained, which means the instrument was highly reliable (Eisinga, TeGrotenhuis and Pelzer, 2012). The collected data was analyzed using mean and standard deviation for research questions. Any mean response of 2.50 or above was considered as agreed while any item with mean response below 2.50 was considered as disagreed.

Ethical Considerations

The ethical consideration observed during the study are as follows:

1. The respondents participated on the basis of informed consent
2. The name of the respondents were not disclose during the course of the study
3. The use of offensive, discriminatory, or other unacceptable language was avoided in the formulation of Questionnaire/Interview/Focus group questions
4. Highest level of objectivity was maintained in discussions and analyses throughout the research.

DATA PRESENTATION AND ANALYSIS

Table 1: Prospects of online instruction by lecturers in South-Eastern Universities **N=173**

S/N	Item statements	$\bar{X}$	SD	Remark
1.	Online instruction makes teaching and learning easy	3.22	.75	Agreed
2.	It reduces stress for both lecturers and students	3.78	.19	Agreed
3.	Online instruction allows time and location flexibility	3.21	.77	Agreed
4.	Online instruction is cost effective	3.22	.75	Agreed
5.	It is time saving for both lecturers and students	3.90	.38	Agreed
6.	Online instruction links distant learners and experts together to form an on-line collaborative learning community	3.32	.75	Agreed
7.	Online instruction provides ultimate access to electronic learning materials both for lecturers and students	3.62	.75	Agreed
8.	It guarantees quick and better access to the teaching	3.59	.79	Agreed
9.	On-line instruction helps student to acquire technology skills and have increased familiarity with technology.	3.31	.73	Agreed

The data presented in Table 1 showed that the mean rating of lecturers on the seven items in the table ranged from 3.90 – 3.31 which are all greater than the cut-off value of 2.50. These, however indicates agreed. Therefore, the

pooled mean of 3.90 – 3.31 shows that the lecturers are in agreement with the 9prospects of online instruction in Nigerian Universities as identified above.

Table 2: Challenges of online instruction to lecturers in South-Eastern Universities **N=173**

S/N	Item statements	$\bar{X}$	SD	Remark
1.	Incompetency among lecturers and students	3.23	.70	Agreed
2.	Poor internet connectivity	3.14	.86	Agreed
3.	Lack of technical support	3.13	.79	Agreed
4.	Poor power supply	3.40	.64	Agreed
5.	Government inability to enforce policy implementation	3.31	.68	Agreed
6.	Lack of funds	3.26	.73	Agreed
7.	Limited e-learning infrastructures	3.11	.79	Agreed
8.	Lack of instructional time to effectively use e-learning tools	3.29	.62	Agreed

The data presented in table 2 showed the mean rating of lecturers on the 7 items had their ranged from 3.11 – 3.40 and were all above the cut-off value of 2.50 on a 4-point rating scale.

These however indicated agreed. Therefore, the mean of 3.11– 3.40 showed that the lecturers agreed with the8 identified challenges of online instruction application in Nigerian Universities.

Table 3: Strategies for improving online instruction among lecturers in South-Eastern Universities **N=173**

S/N	Item statements	$\bar{X}$	SD	Decision
1.	Massive computer literacy programme for lecturers and studentsfor capacity building	3.14	.86	Agreed
2.	Adequate provision of online computers/e-mail	3.21	.77	Agreed
3.	Connection of classrooms/Auditorium to the internet	3.22	.75	Agreed
4.	Provision of standby generators for regular power supply	3.14	.86	Agreed
5.	Employment of computer technicians for routine repairs	3.22	.75	Agreed

Corresponding author: Onwumere Michael

✉ onwumere michael@gmail.com

Department of Technical and Vocational and Technical Education, Alex Ekwueme Federal University, Ndufu-Alike Ikwo, Ebonyi State.

© 2025. Faculty of Technology Education. ATBU Bauchi. All rights reserved



S/N	Item statements	$\bar{X}$	SD	Decision
6.	Provision of incentives for courseware development	3.19	.79	Agreed
7.	Adequate online instruction funding	3.11	.72	Agreed

SD = Standard Deviation of the respondents and $\bar{X}$ = Mean of the respondents

The data presented in table 1 showed the mean rating of lecturers on the seven items in the table ranged from 3.11 – 3.22 which are all greater than the cut-off value of 2.50. These however indicates agreed. Therefore, the pooled mean of 3.11 – 3.22 shows that the lecturers are in agreement with the 7 identified strategies for improving online instruction application in Nigerian Universities.

DISCUSSION OF FINDINGS

The findings from Table 1 shows that there are 9 prospects of online instruction identified by the study. However, the prospects identified by the study are; online instruction makes teaching and learning easy (Khan, 2006), reduces stress for both lecturers and students, allows time and location flexibility, is cost effective, time saving for both lecturers and students, links distant learners and experts together to form an on-line collaborative learning community, provides ultimate access to electronic learning materials both for lecturers and students, guarantees quick and better access to the teaching instructors, and helps student to acquire technology skills and have increased familiarity with technology. The result of the hypothesis tested also confirmed the validity of this result since the differences in the universities, location and experiences did not significantly influence their responses on the 9 prospects of online instruction by lecturers in South-Eastern Universities in Nigeria. This outcome is in line with, Ogboji (2011) who posits that online instruction provides opportunity for a course designer to present to students through a single interface all the requirements and components of a course of training. More so, Mole (2011) adds that e-learning has a capacity to address the scarcity of teaching and research materials in the libraries of institutions of higher learning. It would allow students, lecturers and researchers to share their own research outputs with the global community and improve the

provision of current e-books, e-journals and other library resources, enhance access of academic libraries to global library and information resources; enhance scholarship, research and life-long learning through the establishment of permanent access to shared virtual archival collections.

The outcome from Table 2 shows that there are 7 challenges of online instruction to lecturers in South-Eastern Universities in Nigeria. The challenges are that there is poor internet connectivity, lack of technical support, poor power supply, government inability to enforce policy implementation, lack of funds, limited e-learning infrastructures, lack of instructional time to effectively use e-learning tools and incompetency among lecturers and students. The result of the hypothesis tested also confirmed the validity of this result since the differences in the universities, location and experiences did not significantly influence their responses on the 7 challenges of online instruction to lecturers in South-Eastern Universities in Nigeria. This finding is in line with Adeosun and Maduekwe (2008), who recorded that Nigerian teachers and lecturers could not demonstrate evidence of affective acquisition and use of ICT even at the basic skill level, hence they cannot fully utilize technology in their classrooms, though there is inadequate funding, limited ICT infrastructures and poor internet connectivity as it relates to online instruction.

The result from Table 3 shows that there are 7 strategies for improving online instruction among lecturers in South-Eastern Universities. The strategies identified included among others; adequate online instruction funding, employment of computer technicians for routine repairs, provision of incentives for courseware development, connection of classrooms/Auditorium to the internet, provision of standby generators for regular power supply and Massive computer literacy programme for lecturers and students for capacity building. The

Corresponding author: Onwumere Michael

onwumere michael@gmail.com

Department of Technical and Vocational and Technical Education, Alex Ekwueme Federal University, Ndufu-Alike Ikwo, Ebonyi State.

© 2025. Faculty of Technology Education. ATBU Bauchi. All rights reserved



outcome of the hypothesis tested also confirmed the validity of this result since the differences in the universities, location and experiences did not significantly influence their responses on the 7 strategies for improving online instruction among lecturers in South-Eastern Universities. This finding is supported by Higham and Mararo (2013) who positioned that computer literacy is essential for ICT use especially in education. They also note that all teachers and trainees should have opportunity to experience ICT skills as a normal and inescapable part of their training. According to them, government should adequate provision of incentives for courseware development

CONCLUSION

The aim of the study was to analyze the prospects and problems of online instruction in Nigerian Universities. Online instruction means electronic learning which is a computerized and digital type of education in which texts, audio or sound, pictures, images, graphics and videos can be simultaneously presented online to students. Two models of e-learning are the classroom and distance education models. It enhances curriculum implementation through the development and use of multimedia courseware relevant to teaching-learning situations. Some multimedia course wares include Learning Activity Package (LAP), power point slides, and diskettes. Software may be ready-made or teacher developed instructional software. Problems hindering e-learning were identified as follows: teleconferencing systems, massive computer illiteracy, difficulties in the internet application and use, difficulties in the use of World Wide Web (www), and problems associated with power supply. Other factors include the opportunities for development and use of courseware, the high cost of digital libraries, cost of internet connection, cost of computer and its accessories, among others.

Conclusively, the government should mount an intensive online instruction training program for lecturers, as well as adequately provide all the materials needed for online instruction applications in curriculum implementation in the Universities.

RECOMMENDATIONS

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

1. Government should positively demonstrate more serious attitude to the use of online instruction in schools with the provision of adequate funding and its facilities for effective use of online instructions?
2. The Ministry of Education should have a standard policy for stakeholders to have inputs to the process of defining a common vision for the systematic integration of online instruction in the education system.
3. The government of Nigeria should embark on a massive computer literacy training program nation-wide particularly for lecturers and learners at all levels. This should be accomplished through in-service training of lecturers, workshops, seminars, and conferences, in order to equip them with relevant online instruction operation skills.
4. All classrooms and auditoriums in Nigeria should be connected to the internet in order to enhance web-based instruction by lecturers. The government should do this by paying internet connection fees to internet service providers (ISP) to provide internet services.
5. The government should set up standby generators and uninterruptable power supplies (UPS devices) to tackle the problem of epileptic or inconsistent power supply in order to support the use of electronic equipment for e-learning.
6. Network providers should partner with the university administered to subsidize data cost for both lecturers and students to be able them upload and/or download e-materials for e-learning.

Acknowledgements

The researcher wishes to express his sincere and immeasurable special thanks to God Almighty for His divine Grace and Love. The Researcher wishes to humbly express his profound gratitude to Dr. V. Asogwa for his fatherly heart, patience, tolerance, love, care, and understanding, despite his busy schedules, he still



stood by me academically and imparted so much to the success of this work and for his constructive and inspiring criticisms. Finally, the researcher thank his friends, research assistants and research analyst, you have been a wonderful source of encouragements and support towards the success of this thesis.
Thank you all.

REFERENCES

- Adedoyin, A., Akinuwesi B. & Adegoke, M. (2008). A Framework of Information and Communication Technology (ICT) Policy for education in Nigeria. In J.B. Babalola, L. Popoola, A. Onuka, A. Oni, W. Olatokun, & R. Agbonlahor (Eds.), *Revitalization of African Higher Education* (pp.305-317). Ibadan; Herpnet.
- Adeosun, A.O and Maduekwe A.N. (2008). Academic motivation and e-learning in teacher education: an ESL contextual analysis. Proceedings of the 10th Annual Conference on WWW Applications, Cape Town, South Africa. Retrieved on March 10th 2011 from <http://active.cput.ac.za/ZAW3/Public/index.asp?pageid=638>
- Ajadi, T.O., Salawu, I.O. & Adeoye, F. (2008). E-learning and Distance Education in Nigeria. The Turkish Online Journal of Educational Technology- TOJET. Retrieved on March 10th, 2011 from <http://www.tojet.net/articles/747.pdf>.
- Awolola, S.A. & Tejumola, F.O. (2008). Enhancing Quality Teaching and Learning through the effective use of Information Technology (IT). A Paper presented at the 21st Annual Conference of Curriculum Organization of Nigeria (CON) held at NERDC, Sheda, Abuja.
- Eisinga R; TeGrotenhuis M. & Pelzer, B.(2012). The reliability of a two-item scale; Pearson, Cronbach or Spearson-Brown? *International Journal of Public Health*. 58(4):637-642.
- Federal Republic of Nigeria (2004) National Policy on Education (4thed). Lagos-NERDC.
- Gyang, C.J. (2008). Information and Communication Technology (ICT) Education Sector Reform in Nigeria, in *Nigerian Journal of Sociology of Education (NJSE)* 16/11(3).
- Hedge, N. & Hayward, L. (2004) Redefining Roles. University e-Learning contributing to life-long learning in a networked world. *Elearning*1:128-145.<http://www.nationmaster.com/country/ni/internet>.
- Islam, M.T. (2007). Educational Technology for 21st century. Observer magazine, Dhaka, May 9, 1997, pp. 3-4.
- Jegede, P.O. & Owolabi, A.J. (2008). Computer education in Nigerian secondary schools: Gaps between policy and practice. *Meridian: A Middle School Technology Journal*, 6(2) 1 – 11. Retrieved from <http://www.ncsu.edu/meridian/su/m2003/nigeria/nigeria.pdf>
- Khan, A. (2006). Utilization of communication technologies for distance education, in K, MuraliManohar (ed) distance education theory and practice. Media and communication technology, Hyderabad. Open learning society. Prof. G. Ram Reddy memorial endowment committee, and India distance education association.
- Larsen, K. & Vincent-Lancrin, S. (2005). The impact of ICT On tertiary education; advances and promises, presented at OECD/NSF/U. Michigan Conference Retrieved April 18th 2011 from <http://www.advancingknowledge.com/drafts/Larsen>.
- Nwankpa, N. N. (2004). Impediments to the growth of Information Communication Technologies in Least Developed Countries. LDCS. An unpublished Ph.D Thesis in the Department of Mass Communication University of Nigeria, Nsukka.

Corresponding author: Onwumere Michael

✉ onwumere michael@gmail.com

Department of Technical and Vocational and Technical Education, Alex Ekwueme Federal University, Ndufu-Alike Ikwo, Ebonyi State.

© 2025. Faculty of Technology Education. ATBU Bauchi. All rights reserved



- Ogboji, B. A (2011). Status of e-learning usage in Nigerian Universities. In N. Onyegegbu & U. Eze (Eds.) *Optimizing e-learning opportunities for effective educational service delivery* (pp. 338 – 347) Enugu: Timex Enterprises for Institute of Education, University of Nigeria Nsukka.
- Onuigbo, S. M. & Onuigbo, L.N. (2006). Teaching students with Speech and language disorder: The computer assisted strategy. *International Journal of Arts and Technology Education*. 5(1), 6181.
- Wikipedia (2011). The free encyclopedia. Retrieved from <http://en.wikipedia.org/wiki/Elearning>.
- World Commission on Environment and Development (2007). *Our common future*. New York: Oxford University Press.