

# TOWARDS ACHIEVING MILLENNIUM DEVELOPMENT GOALS IN NIGERIA: DEVELOPMENT OF E-LEARNING ACQUISITION ASSESSMENT INSTRUMENT

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## **Abstract**

*This paper focused on the development and validation of an instrument for assessing the extent of e-learning acquisition by learners in tertiary institutions in Nigeria. The documentary research design was employed. Area of the study was the University of Nigeria, Nsukka. The entire population of academic staff was used in the study. Items of the instrument were framed based on a criterion-referenced bases, using the key platforms involved in e-learning.*

## **Introduction**

Information communications technology (ICT) has turned the whole world into a small village. It has also opened up a world of incredible possibilities in many sectors, especially in education. Today, Nigerian universities, and many other sectors of the nation's economy are facing many challenges that are indeed significant. Some of these challenges include the rapidly growing population, low and uneven education participation, poor quality of education, increasing demand for higher education, quest for technological, economical and academic developments, to mention but a few.

The issues in e-learning have been found to be veritable tools for addressing these significant national challenges. When coupled with the increasing adoption of e-learning in developed and developing countries of the world, the tools for e-learning have become very imperative and indispensable for meaningful technological, educational and economical breakthrough of any nation. These are the goals of the Millennium Development Goals (MDGs), which Nigeria also asserted to their actualization.

The development of bench marking activities that will help in the beginning of the processes of identifying some key factors that will lead to successful e-learning programmes and objectives in colleges and universities in the country have become very necessary for this country, especially at tertiary levels where e-learning programmes recharges are currently in vogue. The design of an assessment instrument bringing to limelight the much expected success or failure of the e-learning enterprise has become important for monitoring and evaluation of such programmes. This study, therefore, presents an objective type of instrument for assessing the extent of learners' acquisition of information communications technology e-learning programme package that can be used in colleges and universities in the country.

### **Statement of the problem**

E-learning has been recognized globally as an indispensable tool for facilitating teaching and learning both in colleges of education and universities in Nigeria. The open university system, which has become functional in the country, became successful principally on e-learning principles and practices. The strong desire by universities in this country, especially the University of Nigeria, Nsukka, is to use e-learning platforms in all her academic and administrative operations. This has made it very imperative for an e-learning based objective type ICT-facilitated, the test instrument to be involved for use in e-learning acquisition programme evaluation and maintenance.

## **Purpose of the study**

The main purpose of this study was to develop and factorially develop an objective test type ICT-facilitated e-learning instrument for use in assessing the extent of acquisition of e-learning programme package. Specific objectives of the study were:

1. To develop an objective type of ICT-facilitated e-learning test instrument for easy acquisition of basic ICT education.
2. To factorially validate the developed instrument for effectiveness

## **Research questions**

The questions that guided the study were:

1. What are the items of objective test of the ICT e-learning questionnaire instrument develop (ICT-EQQI)?
2. What are the indicators that the instrument is factorially valid and reliable?
3. What are the tools for effective lesson delivery?
4. What are the benefits of e-learning to the learner?
5. What are the disadvantages of the e-learning to education/ learner?

## **Significance of the study**

The students/learners engaged in acquiring the ICT-facilitated e-learning programme package will benefit from the developed instrument, which will serve as a ready tool for assessing and evaluating them. The instrument will also be of benefit to institutions in Nigeria that are fast adopting the ICT-facilitated e-learning programme package in the teaching and learning enterprise. Assessors in developing countries will also benefit from the the study, which provides them an easy assessment tool for e-learning programme package now in vogue.

### **Scope of the study**

The study was limited to the assessment of the e-learning readiness of colleges of education and universities on the areas of administrative, academic (teaching and learning) and technological readiness of faculties and departments of tertiary institutions as well as the readiness of individuals. The study is limited to the acquisition of basic knowledge in the cognitive and psychomotor levels of the ICT-facilitated e-learning programme package.

### **Assumptions made in the study**

It is assumed that the ICT facilitated e-learning programme packages for the beginner ICT compliant person can be applied to all levels of the tertiary education in Nigeria.

### **Limitations of the study**

The study is limited to the extent that the items of the instrument were adapted from Geo Sink International (2009) instruments used in assessing ICT e-learning readiness for the beginner ICT compliant person in developed countries.

**The items of the ICT-facilitated e-learning objective test for the questionnaire instrument developed** in answer to research questions 1, 2 and 3 ICT-EOQI

### **Cluster A: items on basic knowledge of ICT E-LEARNING**

Kindly answer the following questions using (√) to indicate your chosen response from the options A-D.

1. What is the full meaning of ICT
  - A. information communications technology
  - B. information committee technique
  - C. information continuing technique
  - D. instructional committee technology
2. The term e-learning means

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- A. Electronic learning      B. Educational orientation learning
- C. Electricity learning      D. Even-distributed learning
- 3. All, except one of these can also be used to describe e-learning
  - A. Computer based training      B. Web based learning
  - C. On-line based learning      D. Every day learning
- 4. ICT e-learning can be delivered via these, except
  - A. intranets      B. Audio and video tape
  - C. CD-ROM      D. Radio and TV

Please, mark (×) any of the following options: STRONGLY AGREE (SA), AGREE (A), and DISAGREE (D) STRONGLY DISAGREE (SD), which mostly corresponds to your chosen response to the following items.

- 5. ICT e-learning covers a wide range of activities from supported learning to blended or face-to-face learning-to-learning that occurs 100% on-line (SA, A, D, SD).
- 6. On-line distance education is well matched with ICT e-learning and flexible learning and also used for the in-class teaching and learning (SA, A, D, SD).
- 7. On-line distance education is also well matched with in-class teaching; blended learning; outreach programmes and micro teaching exercises (SA, A, D, SD).
- 8. An e-learning course is a course in which learning is facilitated and supported using ICT (SA, A, D, SD).
- 9. ICT e-learning course is rarely attended face-to-face (SA, A, D, SD).
- 10. In ICT e-learning, most teacher-learner or learner-to-learner interactions are done via computer networks (SA, A, D, SD).
- 11. ICT e-learning motivates and supports students to take responsibilities for their own learning (SA, A, D, SD).
- 12. Through ICT e-learning assessment and mailing, work loads are reduced through the use of computer-assisted assessment (CAA) and computer-mediated communication (CMC) only (SA, A, D, SD).

13. ICT e-learning does not encourage collaborative learning (SA, A, D, SD).
14. ITC e-learning enhances quick amendment and updating of materials (SA, A, D, SD).
15. ICT e-learning leads students to feel isolated or make them miss some social interactions (SA, A, D, SD).
16. ICT e-learning guarantees that all courses can be learnt on-line (SA, A, D, SD).
17. ICT e-learning requires that the instructions must always be available on demand (SA, A, D, SD).

**Cluster B: Items on lesson delivery via ICT e-learning**

**Item 1 answers to the research questions 1, 2 and 3 content**

Kindly answer questions 18-27 by marking (√) against any of options A-D that marhes your chosen response.

18. E-learning can be delivered using any two of the following ICT platforms except  
A. CD-ROMS            C. Internet            C. Intranet  
D. White Board    A (A, D), B (B, C), C (C, D), D (A, B, C, D).
19. The following are e-learning management systems  
A. White Board            B. Story Board            C. Moodle  
D. Webc/jE. Sahia, Kawl    (SA, A, D, SD).
20. UNN-e-learning system is built on a course management system (CMS) called:  
A. Moodle    B. Yahoo    C. Google    D. CD-ROM  
(A only), (A/B only), (A and D only).
21. The full meaning of Moodle Is  
A. Modular Object Oriented Dynamic  
B. Modular, Object Ordered Dynamic  
C. Modular Oriented Dynamic for Learning  
D. Modular Oriented Data Learning Electrically  
(A ONLY), (B ONLY), (C ONLY), (D ONLY).
22. An activity package in e-learning where people (i.e. The teacher and students) can meet at the same time and send text messages is

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- called -----
- A. Chat Room      B. Home      C. Web Sight  
D. Window
23. A single poll used by teachers in e-learning for getting feedback from students is called -----
- A. Intranet    B. Internet    C. Choice    D. Windows
23. The command that helps in saving document in e-learning is:
- A. Control    B. Delete    C. And    D. Home
24. A web based instrument with a wide variety of questions types such as multiple choice, true/false short answers and matching used in e-learning is called -----
- A. Quiz      B. Home      C. Internet    D. Intranet
25. A collaboratively edited webpage is called -----
- A. Wiki      B. Web      C. Network    D. Diaphram
26. Which of these is not one of the dimensions of e-learning evaluation?
- A. Organizational    B. Environment    C. Pedagogy  
D. Technology
27. Lessons are delivered most successfully to learners I e-learning via.
- A. Chalk Boards    B. White Boards    C. Slides only  
D. White Boards/Slides/Flashes

**CLUSTER C: Benefits of e-learning to education**

28. To what degree do you agree that the following are major advantages of e-learning to an institutions and individuals?
- A. reduction of work load    B. making information available on-line  
C. Reduction of time frame    D. Reduction of cost  
(SA, A, D, SD).
29. Easy amendment and upgrading of materials is observed in e-learning (AS, A, D, SD).
30. E-learning enhances easy communication with individual and group of students (SA, A, D, SD)
31. E-learning makes it possible to use a wide range of resources that may have been difficult and very expensive to use (SA, A, D, SD).

32. E-learning and traditional method of instruction use the same types of evaluation modes (SA, A, D, SD).
33. Data collection using e-learning is the same with traditional method  
(Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD)).
34. The following are e-learning evaluation models  
A. Management Model B. Kirk Patrick Model  
C. David's' Stufflebeam CIPP Model  
D. John Bulls Model (1) A, B (2) A, C (3) A/B, C (4) B,C, D
35. E-learning makes it possible for learners to study with computers at  
A. Home B. School C. Library  
D. Where There Are Internet Services  
(1) A, C (2) A, B (3) B, C (4) D only
36. Options to select learning materials that meet learners' level of knowledge and interest are in e-learning said to be:  
A. Very Highly Enhanced B. Just Enhanced  
C. Not Enhanced D. Not Very Enhances Through e-learning  
(SA, A, D, SD)
37. Self spaced-learning modules disallows learners to work at their own pace (SA, A, D, SD).
38. Different learning strategies (visual, auditory, tactile, illinesthic) can be addressed through e-learning (SA, A, D, SD).
39. Provision of frequent and timely individual feedback information through e-learning is -----  
A. Highly Assured B. Assured C. Not Assured  
D. Not Always Assured Through e-Learning (SA, A, D, SD)

**CLUSTER D: Disadvantages of e-learning**

Which of the following opinions do you agree with regards to e-learning programme?

40. Unmotivated learners or those with poor study habits may  
A. Fall Behind B. Not Fall Behind C. Be Motivated  
D. Be Disinterested More

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(SA, A, D, SD)

41. Slow or unreliable internet connections can be  
A. Joyous      B. Very Joyous      C. Accommodated  
D. Very Frustrating.      (SA, A, D, SD)
42. Intranet is an ICT platform that has very limited area of coverage  
(SA, A, D, SD).
43. Internet is an ICT platform that has very wide area of coverage  
(SA, A, D, SD).
44. Power point presentation can be used in the following areas:  
(1). Seminar Presentation; (2). Teaching and learning;  
(3). In project designing.  
A. 1, 2, 3      B. 1, 3      C.3 Only      D. 2 Only
45. To remove an unwanted item in a computer, use the command  
icon:  
(1). Delete; (2). Backspace; (3). Table eraser  
A. 1, 3 only      B.1, 2 only      C. 2, 3 only      D. 1, 2, 3
46. To produce a table, use the icon: (1).draw table ; (2). Insert table;  
(3). Table eraser;  
A. 1, 3, only      B. 1, 2 only      C. 2, 3 only      D. 1, 2, 3
47. The short cut for highlighting all documents in a page is:  
(1). Control + A; (2). Control + Z; (3). Control and drag cursor  
A. 1, 2, 3      B. 1, 2 only      C. 1, 3 only      D. 1, 3 only
48. To copy a document from the computer we use:  
(1). Control + A; (2). Right click and click copy; (3). Left click;  
(4). Control + F.  
A. 1, 4only      B. 1 only      C. 2, 3 only      D. 1,2only
49. Font size of a document means:  
(1). The gap(s) between adjacent statements;  
(2). The gaps between adjacent;  
(3). The gap(s) between tables in a page.  
A. 1, 2 only      B. 1, 3, only      C. 1 only      D. 2 only
50. The short cut for undo command is:  
(1). Control + Z; (2). Control + C; (3). Control + L  
A. 1 only      B. 1, 2 only      C. 1, 3 only      D. 1, 2, 3

**Results**

1. A	8. SA	15. SA	22. A	29. SA	36. SA	43. SA
2. A	9. SA	16. SA	23. A	30. SA	37. SD	44. A
3. D	10. SD	17. B	24. A	31. SA	38. A	45. D
4. D	11. SA	18. B	25. D	32. SD	39. A	46. B
5. SA	12. SA	19. A	26. D	33. A/B/C	40. D	47. C
6. SA	13. SA	20. A only	27. B	34. D	41. SA	48. D
7. SD	14. SA	21. A only	28. A	35. A	42. SA	49. D
						50. A

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