



# ASSESSMENT OF STUDENTS' READINESS AND RECEPTIVENESS FOR E-EXAMINATION IN OPEN AND DISTANCE LEARNING INSTITUTION IN NIGERIA

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**Abstract:** *The study examines the Assessment of Students' Readiness and Receptiveness for E-Examination in Open and Distance Learning Institution in Nigeria. The specific objectives are; i. to identify the mode of examination preferred by participants and the reasons for their choice, ii to determine whether the participants have earlier been exposed to eExamination before taking NOUN eExamination. iii to identify the technical challenges experienced by the participants in eExamination relating to their state of readiness. iv to find out any feeling of advantage or disadvantage of the participants writing eExamination in NOUN. The study employed descriptive survey approach. The population from which the sample was drawn consists of returning students of National Open University of Nigeria Naval base special study centre Apapa who had previously sat for the eExamination in NOUN. The instrument used was a semi-structured questionnaire designed. An in-depth analysis of qualitative responses extracted from the semi-structured questionnaire was done to reveal the participants' readiness and receptiveness for eExamination. The result showed that the participants are ready to accept eExamination because they have seen that eExamination processes are credible; timely; fast; convenient and produces authentic results unlike the pen on paper examination which posed a lot of challenges to the university resulting in undue delay in the collation processing of results and eventual release of meaningless and incomplete results.*

**Keyword:** Assessment, Students' Readiness, Receptiveness, E-Examination, Open Distance Learning and Institution.

## INTRODUCTION

Open and distance learning (ODI) worldwide is technologically driven and the modern trend is towards its use in assessment of students' learning outcomes. In the National Open University of Nigeria (NOUN), online assessment is used for the assessment of Tutor Marked Assignments (TMA), NOUN form of continuous assessment (formative assessment) while local area network within NOUN environments have been used in End of Semester Examination (summative assessment) because technology can support both formative summative

assessments. The NOUN e-assessment provides instant feedback to the learners and removes the burden of marking from the academic staff. The practice is rewarding and its potentials have helped to resolve developmental issues associated with learners' assessments experienced from inception in the university.

Assessment is the systematic process of collecting and interpreting information to make decision about students. Students' assessment is the primary indicator of student achievement and the effectiveness of an educational programme. It is therefore an integral part of the learning



process. Assessment is an integral piece to assuring that an educational institution achieves its learning goals as well as evidence necessary for seeking and maintaining accreditation (Haken, 2006). The National Open University of Nigeria uses two most commonly used approaches to assessment (examination and assignment) in higher education, eAssessment is the use of information technology for any assessment related activity (Wordi, 2010). The definition embraces a wide -use of a word processor to on-screen testing. It is becoming widely used as a generic term to describe the use of computers within the assessment process. eAssessment can be used to assess cognitive and practical abilities. Cognitive abilities are assessed using e-testing software while practical abilities are assessed using e-portfolios or simulation software (WordiQ, 2010).

The NOUN eAssessment engine comprises the hardware and software required to create and deliver a test. The eAssessment engine runs on standard hardware so the key characteristic is the software's functionality. The software does not create test themselves rather the test items are provided by the schools. Once supplied, the engine generates the test. eAssessment currently used by NOUN for her formative assessment, tutor marked assignments (computer marked assignments) has many advantages over the traditional paper based tutor marked assignments. The advantages include:

- Lower long-term costs;
- Instant feedback to students;
- Greater flexibility with respect to location;
- Improved reliability.

Examination in this study is an approach to assessment. Hence, eExamination is electronic examination approach to assessment. It defines the conditions under which students' abilities will be tested. It restricts the time and place where assessment task will be performed. Therefore, the present study seeks to appraise the students' readiness and receptiveness for eExamination with a view to

proffering worthwhile suggestions that would strengthen the process of eExamination and invariably lead to best practice.

At the commencement of eExamination in NOUN, most of the candidates were computer literate and they found the use of computers in assessment very challenging and difficult (Okonkwo, 2010a). The challenge indicates the need for skills and knowledge in the use of computers. Computer literacy is the first step for any individual who wants to do anything with computer especially in odl system of education structure (Osuji, 2010). For NOUN, computer literacy is required to process admission requirements and to register online. It has now extended to taking tutor marked assessment online and has finally been extended successfully to eExamination. The International Association for Educational Achievement planned across country study of students computer and information literacy (Webb & Gibbon, 2011) having realized the need to make use of new technologies in learning and for participating fully in the knowledge society. Earlier Bitner & Bitner (2002:95) observed that the successful use of technologies in the classroom depends on several factors such as funding, dynamic lesson plans, decision concerning hardware, software and so forth.

The NOUN eExamination defines the conditions be tested. It usually restricts the time and place where the assessment task will be performed. The method of examination under review in this study is the computer based assessment referred to here as eExamination. The NOUN migrated from pen on paper examination in 2010 to eAssessment because of the challenges it faced in the pen on paper Assessment era. She currently uses computers to administer students' assessment because computer provided flexibility in time, location and even questions being answered by students. Above all, it enabled the institution to manage effectively most of teething problems it had with students' assessment (Okonkwo, 2010 Ob; 2010c). The NOUN computer based assessment is based



on multiple-choice items which enabled the institution to manage the large volumes of marking by automation which before the introduction of *eAssessment* was a *nightmare* to the university management. The NOUN also uses assignments in form of unsupervised pieces of work that often combine formative and summative tasks, which the institution refers to as tutor marked assignments (TMA). These TMA form a major component of continuous assessment. Four sets of TMA are completed with one semester. Due to peculiar nature of NOUN, large number of students enrolled in the open and distance learning institution, even restriction in format, and due dates put on the assessment task to increase their practicability had little or no effect to the management of the pen and paper TMA. The NOUN saddled with the burden of assessment of large classes, introduced the use of computers in learner's assessment (Okonkwo, 2010b). Nevertheless, different methods of assessment provide the means of ensuring that students are able to demonstrate the range of their abilities in different contexts (Trigwell, 1992). The different methods of assessment are selected responses, essays, performance, assessment and personal communication (Stiggins, 2005). *Each category has advantages in assessing* different learning outcomes. But NOUN assessment is based on selected response presently because that is what the *eAssessment* software is programmed to handle. Essay items involving written work in which student's tryout ideas and arguments supported by evidence are yet to be accommodated by the *eAssessment* software used by NOUN.

The rise in computer technology in recent years, no doubt, has given rise to its use as an instructional tool in education setting. The successful use of technologies in the classroom depends on several factors such as funding, dynamic lesson plans, decision concerning hardware, software and so forth (Bitner & Bitner, 2002:95). Several earlier studies have focused on teachers' perceptions of computer self efficacy and general self efficacy (Topkaya,

2010) and Okonkwo (2013) focused on students who are exposed to the use of computers in assessments. This was done because positive self efficacy of oneself is very necessary in coping with the challenges associated with the deployment of computer in assessment of students' learning outcomes. Okonkwo (2013) studied *eAssessment* and students' perception of computer self efficacy and general self efficacy using NOUN students as a case in hand. The result of the study showed that NOUN students did not have high computer self efficacy but they had high general self efficacy which to a large extent must have positive influence in their successful participation in NOUN *eExamination* (Okonkwo, 2010b). the study now goes on to assess the students readiness and receptiveness for *eExamination* having established NOUN students' perceptions of their computer self efficacy and general self-efficacy. The study was undertaken to proffer solutions and/or suggestions that would make the process more rewarding to the students and for the institutions interested in engaging in *eExamination* to enthrone best practice. This is because *eExamination* is now the in-thing for any institution entangled with the challenge of providing quality assessment to large number of students especially at 100 and 200 levels where students' usually do general compulsory courses.

It is no longer news that open and distance learning is characterized by large class sizes which entailed a number of issues with respect to assessment that are likely to be done less well and/or less often; and the resulting negative effects on student learning and achievement (AUTC, 2002). NOUN being no exception, adopted the strategic policy of *eAssessment* to have as much assessment as possible transformed to computer marked objective tests especially the continuous assessment in order to release staff time for greater focus on other academic activities. This policy was adopted by NOUN in order to enhance her operational efficiency (Okonkwo, 2010b). The NOUN has



increasingly turned to eAssessment in an effort to manage the challenges of assessing large classes despite its associated challenges. Although many of the technical challenges of enabling development of eAssessment are being overcome, yet there are still many barriers to the widespread use of eAssessment for high-stakes testing at school level (Craven, 2010). It is also widely recognized that the standard of telecommunications infrastructure in developing countries falls well below that in developed countries. Developing countries such as Nigeria place much greater reliance on satellite communications that are over 20 years old and because of their age, their capacity is quite limited (Wright, Dhanarajan & Reju, 2009).

Another notable and most crucial challenge is more often caused by interruptions to the electricity supply which Inglis (2010) has also acknowledged is more than the failure of the infrastructure itself. Moreover, the ability of the authorities to maintain the telecommunications and electricity infrastructure is often limited by lack of availability of appropriate qualified technical staff. Attempts to improve the communication infrastructure are thwarted by lack of systematic approach to the implementation of ICT projects (Sife, Lwoga & Sanga, 2007). Other notable challenges are obtaining access to the Internet, which apart from being expensive; the bandwidths are limited and slow. Nonetheless is the cost of computer notebooks themselves. All these seeming challenges notwithstanding, NOUN migrated to the use of computer based assignments because it offered a better option in the management of NOUN assessment challenges encountered in the pen on paper assessment era. Thus, this study seeks to look at the students' readiness and receptiveness for the eExamination.

At the commencement of eExamination in NOUN, most of the candidates were computer illiterate and ignorant on the use and capabilities of computers. They had little or no

knowledge on how to operate the computer systems. Consequently, they find the use of computers in assessment very challenging and difficult. They made a lot of mistakes that could be avoided in the pen on paper assessment mode in the eExamination process (Okonkwo, 2010a, 2013). In response to this need. Adewale, Ajadi & Inegbedion (2010) studied the perception of NOUN students on electronic examination. Their study revealed that there was a difference on the perception on acceptance of eExamination by students prior and after the examination. The study further revealed that the difference of students' perception lies on the reduction of examination malpractice, wide coverage of scheme of work, students' academic performance, and age factor to the use of IT and inadequate facilities. The post perception had more support to the use of eExamination, which the students perceived will help reduce examination malpractices. Their finding supports the view of Professor Olu Jegede (Awosiyan, 2010) that eExamination would help to reduce examination malpractice. They opined that the nature of open and distance learning requires a more vibrant mode of conducting an examination. Furthermore, Okonkwo (2013) studied eAssessment and students perception of computer self-efficacy and general self-efficacy of NOUN returning students. The study was done because computer self-efficacy and general self-efficacy are important variables in the use of technology in assessment. The result of that study showed that NOUN students have high general self-efficacy perceptions. Although their computer self-efficacy was not very high, they believed that they are skillful users of computer.

Despite the laudable landmark which NOUN has achieved in assessment of students' learning outcomes via effective deployment of technology not much has been done in the area of information and communication technology support for learners. The learners are at the centre of the teaching learning process. They are to be adequately



equipped with the necessary skills required by them for effective participation in the e-Examination. Besides, it has also been observed that beyond the world of formal education, ICT now sits at the leading edges of all the sciences and humanities as well as popular culture, where informal lifelong learning thrives (Webb & Gibson, 2011). The major shift of the information age towards ICT in learning also necessitates change in assessment process along with an understanding of the impact of ICT on assessment. That new technologies can support both formative and summative assessment and technological advances are no longer new. Students can be assessed through simulations, e-portfolios and interactive games (Clarke & Dede, 2010; Gibson, in press; Gibson, Cheong, Stuit, Annetta & Nolte, 2009; Quellmalz, Timms & Schneider, 2009f. Likewise, it is expected that for quality education, assessment should provide the means of ensuring that students being assessed are able to demonstrate the range of their abilities in different contexts. Therefore, the use of selected responses only in NOUN eExamination introduces another limitation to the examination approach to assessment.

This study therefore focused on assessment of students' readiness and receptiveness for eExamination with a view of contributing meaningfully to good practices in the ongoing eExamination process and eventual quality education via ODL mode of education.

#### **Statement of Problem**

E- Examination has no doubt been introduced by the National Open University as a result of its perceived numerous panacea to the conventional paper assessment. It was Okpara (2016) who pointed out the following as the advantages of e-assessment over the conventional pen and paper assessment: lower long term cost, instant feedback to the students, greater flexibility with respect to location, improved reliability of test and reduced examination malpractices in terms of copying and duplicating from

related materials as a result of the limited time allotted and the format of the examination.

Irrespective of the numerous advantages of the e-assessment introduced in NOUN, there are numerous perceived challenges bedeviling the full actualization of this process ranging from high cost of procurement of computer system, the ability of the students to operate the computer system, inability of the students to procure and pay for internet bandwidth, fluctuation in the speed of the internet and most dangerously the epileptic or unavailability of power in most cases.

Another challenge of this process is the students' readiness to accept this system of assessment since it does not give the students chances of expressing what is in their intellect as a result of the objective format of the test.

This study shall therefore x-ray the student's readiness and receptiveness for e-examination in Open and distance learning institutions in Nigeria in relation to the above challenges itemized.

The purpose of the study is to assess NOUN students' readiness and receptiveness for eExamination at the university. The study focused on the following objectives:

- i. To identify the mode of examination preferred by participants and the reasons for their choice.
- ii. To determine whether the participants have earlier been exposed to eExamination before taking NOUN eExamination.
- iii. To identify the technical challenges experienced by the participants in eExamination relating to their state of readiness.
- iv. To find out any feeling of advantage or disadvantage of the participants writing eExamination in NOUN.

#### **Research Questions**

The following research questions guided the study.

- i. What mode of examination is preferred by the participants and why?





- ii. Have the participants been earlier exposed to eExamination before taking NOUN eExamination?
- iii. What are the technical challenges experienced by the participants in eExamination as a result of their readiness?
- iv. Do the participants feel any form of advantage or disadvantage writing eExamination in NOUN?

#### **Method**

This study employed descriptive survey approach in studying the readiness and receptiveness of NOUN students for eExamination. The population from which the sample was drawn consists of returning students of National Open University of Nigeria Naval base special study centre Apapa who had previously sat for the eExamination in NOUN. The Naval base special study centre Apapa was purposively selected for the study because it is an ideal study centre with most of the facilities needed for liberal academic work in place. Fifty five participants were drawn from this population by using stratified random sampling techniques to ensure that each school and the centre were adequately represented. The samples consist of both male and female students in the five (5) schools and one (1) centre of the university. The distributions of the participants are: School of Science and Technology (10); School of Education (5); School of Management Sciences (15); School of Arts and Social Sciences (13); School of Law (1C<sup>1</sup>); and Centre for Lifelong Learning and Workplace Training (2).

The instrument was a semi-structured questionnaire designed by the author. The items were based on the data collected from staff and students of NOUN during monitoring exercise of NOUN premier eExamination at

the Awka eExamination Centre in 2010 by the researcher. The questionnaire was validated by presenting it to a senior colleague who also monitored the eExamination at the same venue during the foremost eExamination. Her crucial remarks were used to update the content and structure of the questionnaire. Fifty five questionnaires were administered to the fifty five participants and were completed and returned. However, there are some sections of the questionnaires that were not completely filled by the participants. These sections varied from participant to participant. Thus, in the data analyses, only the questionnaires sections completed by participants were used for the sectional analysis in respect of the various research questions in all the sections of the questionnaires. The data collected by administering the research instrument were collated, analysed and reported quantitatively and qualitatively. The quantitative analysis was done by using percentages. The cutoff point for acceptance of responses to a research question is set at 55%. Any response of 55% and above is accepted as favourable while a response of 65% and above was accepted as meaningful contributor to students' readiness and receptiveness for eExamination. The qualitative analysis involved listing of all meaningful responses indicated by the participants in the questionnaire with the number of the participants that gave the response. An in-depth analysis of the qualitative responses extracted from the semi-structured questionnaire was done to reveal the participants' readiness and receptiveness for eExamination. These results were presented research question by research question under results and were later discussed.



**Results: Table 1**

The participants' responses to the questionnaire item "Do you prefer eExamination?"

| Yes | %     | No | %     | Decision |
|-----|-------|----|-------|----------|
| 40  | 72.73 | 15 | 27.27 | Accept   |

Table 1 shows the participants responses to the questionnaire item "Do you prefer eExamination? Out of the 45 participants that responded to this section of the questionnaire, 40 participants (72.73 %) preferred eExamination by responding 'Yes'. While 15 participants (27.27%) responded 'No' indicating that only 15 participants do not prefer eExamination.

**Table 2**

The reasons given for answering 'Yes' by the participants and the frequency of their responses.

| S/No. | Reasons For Responding "YES"                                                                   | Frequency |
|-------|------------------------------------------------------------------------------------------------|-----------|
| 1.    | The processes are timely, fast and convenient                                                  | 14        |
| 2.    | eExamination is more reliable and credible, discourages harassment from facilitators and staff | 10        |
| 3.    | It enables student study and answer questions with good precisions                             | 9         |
| 4.    | It enhances our computer skill                                                                 | 7         |
| 5.    | The grading process is automatic and authentic                                                 | 6         |
| 6.    | It is most accurate when all technical problems and internet access are taken care of          | 5         |
| 7.    | It has no room for examination malpractice                                                     | 3         |
| 8.    | It is more economical, reduces paper waste                                                     | 2         |
| 9.    | It enables us to read harder and learn well                                                    | 1         |
| 10.   | It is the modern method of writing professional examination                                    | 1         |

Table 2 shows the reasons given by the participants for their preference for eExamination and the frequency of their responses. The reason given that eExamination is timely, fast and convenient ranked first with a frequency of 14. While the reasons that it enabled them read harder and learn well; it is the modern method of writing professional examination rank least with frequency of 1 respectively.

**Table 3:**

The reasons given for answering 'No' by the participants and the frequency of their responses.

| S/No. | Reasons For Responding "YES"                            | Frequency |
|-------|---------------------------------------------------------|-----------|
| 1.    | eExamination does not give chance to create one's ideas | 7         |
| 2.    | Candidates computer skills are not the same             | 2         |
| 3.    | It waste time due to insufficient functional computers  | 2         |
| 4.    | No proper grade calculation in eExamination             | 1         |



Table 3 reveals the reasons given by the participants not preferring eExamination. Their responses showed that the response 'eExamination does not give chance to create ones ideas' has a frequency of 7 and is the highest. While 'no proper grade calculation in eExamination' ranked least with a frequency of 1.

**Table 4**

The participants' responses to the questionnaire item "Do you prefer a combination of eExamination and pen on paper examination?"

| Yes | %     | No | %     | Decision |
|-----|-------|----|-------|----------|
| 13  | 25.00 | 39 | 75.00 | Reject   |

Table 4 gives idea about the participants' responses to the questionnaire item "Do you prefer a combination of eExamination and pen on paper examination?" The responses demonstrate that only 13 responses (25.00 %) of the entire responses demonstrate agreement to a combination of eExamination and pen on paper examination. On the other hand, the responses against a combination of eExamination and pen on paper examination attracted 39 responses (75.00%) from the participants.

**Table 5**

Reasons given for answering "Yes" by the participants and the frequency of response to the questionnaire item "Do you prefer a combination of eExamination and pen on paper

| S/No. | Reasons For Responding "YES"                                                                                                  | Frequency |
|-------|-------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1.    | A combination of eExamination on pen on paper examination gives one time to express oneself in the pen and paper examination  | 3         |
| 2.    | There is need for one to express an opinion better                                                                            | 3         |
| 3.    | Pen on paper improves writing skill                                                                                           | 2         |
| 4.    | We need to express ourselves, our ability, when you are allowed to answer by writing it brings out the best from you          | 1         |
| 5.    | There are some points one will like to give in details for flexibility                                                        | 1         |
| 6.    | Law students are supposed to solve problem questions                                                                          | 1         |
| 7.    | Pen on paper should be included as an avenue for those who do not know how to use the computer                                | 1         |
| 8.    | Pen on paper should be taken by 300 level students and above                                                                  | 1         |
| 9.    | eExamination could take care of objective section of the examination while pen on paper could take care of subjective section | 1         |

Table 5 illustrates the reasons given by the participants for answering 'Yes' to the questionnaire item that seeks to find out whether they preferred a combination of eExamination and pen on paper examination. They opined that a combination of eExamination and pen on paper examination gives one time to express one's self in the pen on paper examination; and there is need for one to express an opinion better with 3 responses each. These responses attracted the highest frequency. The responses listed from S/N "4 to 10" elicited only 1 response each.





**Table 6**

Reasons given for answering "No" by the participants and the frequency of response to the questionnaire item "Do you prefer a combination of eExamination and pen on paper examination?"

| <b>S/No</b> | <b>Reasons for responding "No"</b>                                                                          | <b>Frequency</b> |
|-------------|-------------------------------------------------------------------------------------------------------------|------------------|
| 1           | A combination of eExamination and pen on paper examination will be stressful                                | 5                |
| 2           | Pen on paper examination encourages examination malpractice and cheating                                    | 4                |
| 3           | Scripts can get lost in the combination process                                                             | 4                |
| 4           | Pen on paper examination is prone to bribery since it is at the mercy of the examiners description and mood | 3                |
| 5           | A combination of eExamination and pen on paper examination will take more time                              | 3                |
| 6           | Pen on paper examination is the best in the world today, it is the best legacy                              | 2                |
| 7           | A combination of the two modes will affect students study habit and stability                               | 1                |
| 8           | Pen on paper examination is better than eExamination for proper scrutiny of student ego                     | 1                |
| 9.          | No need after writing eExamination we now start writing pen on paper. It is waste of time and resources     | 1                |

Table 6 revealed the participants' reasons for responding "No" to the questionnaire item "Do you prefer a combination of eExamination and pen on paper examination. The reason in which the participants stated that a combination of eExamination and pen on paper examination will be stressful attracted the highest response of 5. While their reasons stated from S/No "7 to 9" attracted 1 response each from the participants. Other reasons given by the participants attracted 4, 3 & 2 responses respectively.

**Table 7**

Other responses given by the participants for their preference for eExamination

| <b>S/No</b> | <b>Other reasons given for preference for eExamination</b>                                                                                               | <b>Frequency</b> |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 1           | Students cannot blame or hold anybody for their poor grades since eExamination is one man thing, if you do not study you fail so it encourages hard work | 5                |
| 2           | eExamination is in line with computer age, no need for combination                                                                                       | 3                |
| 3           | The credibility of eExamination surpasses that of pen on paper examination                                                                               | 1                |



|   |                                                                                                                           |   |
|---|---------------------------------------------------------------------------------------------------------------------------|---|
| 4 | If all technical problems are sorted out. eExamination remains the best                                                   | 1 |
| 5 | eExamination should be taken in 100 and 200 levels                                                                        | 1 |
| 6 | There is need for us to adapt to the innovation of the globe and to meet up with the world standards                      | 1 |
| 7 | eExamination is a modern system and is very encouraging, interesting and time saving                                      | 1 |
| 8 | It slows us down, waste time looking for the button to press, the distraction makes one to forget what one wants to write | 1 |

Other reasons given by the participants for their preference for eExamination are enumerated in Table 7 above. The table showed that the statement: "student cannot blame or hold anybody for their poor grades since eExamination is one man thing, if you do not study you fail so it encourages hard work"; attracted the highest response of 5 from the participants whereas the next attracted 3 responses. However, their statements enumerated from S/No '3 to 8' attracted 1 response each.

**Table 8**

The participants' responses to the questionnaire item "On balance, is it better to have formal test conducted using computers or using handwriting on paper?"

| Better on computer | %     | Better on paper | %     | Decision |
|--------------------|-------|-----------------|-------|----------|
| 37                 | 77.08 | 11              | 22.92 | Accept   |

Table 8 confirmed that the participants really preferred eExamination. This is revealed by their responses which indicated that on balance, they preferred use of computer in examination with 37 responses (77.08%). Those who opined that it is better on paper had only 11 responses (22.92%).

**Table 9**

The participants' responses to the questionnaire item "Have you taken a computer based responses examination before taking eExamination in NOUN?"

| Yes | %     | No | %     | Decision |
|-----|-------|----|-------|----------|
| 22  | 40.74 | 32 | 59.26 | Reject   |

Table 9 revealed that 22 participants (40.74%) have taken computer based examination before taking NOUN eExamination while 32 participants (59.26%) have not.

**Table 10**

Types of eExamination the participants were earlier exposed to before sitting for NOUN eExamination.

**S/No Types of eExamination earlier taken by participants before NOUN eExamination**

- 1 ILETS Examination, Victoria Island, Lagos
- 2 Computer diploma course



- 3 At University of Lagos, Lagos
- 4 At Job Interview
- 5 NCLEX Examination for Nurses
- 6 At Yaba College of Technology, Yaba, Lagos
- 7 CCNA examination conducted by Prometric
- 8 Microsoft Computer System Administration
- 9 At Computer School.

Table 10 showed the list of computer based examination experience to which the participants had earlier been exposed to. The list indicates that the participants do not have adequate eExamination experience before taking eExamination in NOUN.

**Table 11**

The participants' responses to the questionnaire item "Do you have any technical difficulties in NOUN eExamination you have taken so far?"

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Table 11 demonstrates that the participants do not have much technical difficulties in NOUN eExamination. Only 15 participants (28.85%) stated that they have some form of difficulty while 37 participants (71.15%) confirmed that they do not have any form of difficulty.

Although the participants are fascinated by the use of eExamination approach assessment, they still expect the examination x pnnpice them with the means of ensuring that they are able to demonstrate their range of abilities in different contexts. This can achieved by the introduction of the other different methods of assessment (Stiggins, 2005] such as essays, performance assessment and personal communication to the selected response already used in the present eExamination approach.

Other reasons they gave for their preferences for eExamination showed that eExamination encourages hard

work on the part of the students. They see it as more credibly once all the technical problems are controlled. This credible process if sustained will lead to achievement of a crucial means of providing the essential evidence necessary for seeking and maintaining accreditation as well as achievement of learning goals by the institution which Hagen (2006) opined is a role of assessment. These good processes will eventually lead to best practice in eExamination.

The participants confirmed really that they prefer eExamination by their responses. Their responses showed that 77.08% of them preferred formal test on computer. This response is very meaningful and encouraging. All that needs to be done now is to take adequate care of all the challenges that militate against successful integration of computer in examination. Among these challenges are:

- Students ICT skill's
- Frequent electric power outages
- Computer technical problems
- Sustainable Internet access
- Inclusion of subjective items in the assessment instruments

Their responses showed that they have not been well exposed to eExamination before taking NOUN eExamination. But they had idea of eExamination having taken different versions of computer based examination at earlier opportunities. However, their experiences were limited. These earlier experiences were not very elaborate as NOUN eExamination. The NOUN did a good thing by providing practice exercise in the Internet for her students to enable them familiarize themselves with the process



before the actual eExamination (Okonkwo, 2010b). Once the students familiarize themselves with the process and had improved/adequate ICT skills, eExamination would go on uninhibited.

They do not really have any technical difficulties in NOUN eExamination. The technical difficulties experienced in NOUN eExamination are controllable by NOUN IT team who are well groomed to handle the eExamination processes. The technical problems from all indications are the teething problems associated with new innovations and they are now things of the past.

The NOUN have reinforced the network provisions, provided more robust servers to manage the traffic more efficiently by avoiding server freezing and hanging. The NOUN has also equipped most of the eExamination centres with modern computer systems and functional standby electric power generating sets. The students are also required to take compulsory ICT course as a compulsory general study (GST) course. This course is expected to adequately equip the students with necessary ICT skills needed for efficient operations in ODL environment.

The participants' responses to their feeling of advantages writing eExamination in NOUN is a clear indication of their readiness and receptiveness of eExamination. Their responses are very meaningful and are accepted as such. Even the reasons they gave for their readiness and receptiveness of eExamination are very cogent and worthwhile. Among the reasons they gave are that eExamination leads to:

- Authentic and credible examination grades
- In-depth study of the learning content
- Auto grading and transparency in the process
- Improved computer literacy
- Transformation towards global practice

Any examination process that has all these attributes must be transforming to best practices that would eventually lead to quality education and certification. Besides, it will

provide-essential evidence necessary for seeking and monitoring accreditation as opined by Haken (2006). The result is not surprising because NOUN students have been found to possess very high general self-efficacy (Okonkwo, 2013), which is believed to have positive influence in their computer self-efficacy and their successful participation in NOUN eExamination (Okonkwo, 2010b) of students learning outcomes.

The participants' responses to feeling of any type of disadvantage writing eExamination in NOUN confirmed their readiness and receptiveness for eExamination. The participants' worries had to do with general challenges faced by developing nations in the use of technology (Wright, Dhanarajan & Reju. 2009; Inglis, 2010; Sife, Lwoga & Sanga, 2007). Hence, as much as NOUN is trying to tackle the challenges, the issues are really national in outlook and the nation must have to sit up and tackle these challenges so that she will not be left behind in this ICT global race.

### **Conclusion**

This study assessed students' readiness and receptiveness for eExamination in open and distance learning institution. This is because eAssessment is a field of growing importance in open and distance learning mode of education delivery globally. Hence, eExamination was adopted by the premier ODL institution in Nigeria to enable her manage the challenge of providing meaningful and quality assessment to her teeming students population. The findings of the study are presorted and discussed in the relevant sections under results and discussions respectively. The (results showed that the participants are ready to accept eExamination because they have seen that eExamination processes are credible; timely: fast; convenient and produces authentic results unlike the pen on paper examination which posed a lot of challenges to the university resulting in undue delay in the collation processing of results and eventual release of meaningless



and incomplete results. Moreover, the ODL learners in this institution are gradually possessing computer literacy skills which 21st Century skills necessary and needed for survival and successful participation in the emerging global ODL mode in education. It is not surprising because the NOUN students have been found to possess very high general self-efficacy (Okonkwo, 2013) believed to have positive influence in their computer self-efficacy and their successful participation in NOUN eExamination (Okonkwo, 2010b) of students learning outcomes. But effort must be made include the other different forms of assessment in the eExamination approach. These other methods of assessment such as essays, performance assessment and personal communication (Stiggins, 2005) in addition to the selected response type already used in eExamination are needed to provide the means of ensuring that the students are able to demonstrate the range of their abilities in the different contexts. This is necessary for quality education.

The results not only confirmed achievement of NOUN objective of migrating to eExamination (Okonkwo, 2010b), but also highlighted what need to be done to achieve best practice in the processes of eExamination and eAssessment for quality education. Hence deliberate effort should be made by any institution wishing to use eExamination in assessing students learning outcomes to overcome the challenges identified which militates against successful integration of computers in examination. The challenges are:

- Students ICT skills
- Frequent electric power outages
- Computer technical problems
- Sustainable Internet access
- Inclusion of subjective items in the assessment instruments

#### **Recommendations**

In order to achieve best practice in eExamination, the following recommendations informed from the findings of this study are made for quality education.

eExamination should include both objective and subjective items at the right difficulty levels in the assessment instruments to ensure quality of the assessment instrument and to maintain standard. This can be attained by development and use of standard items bank developed based on the institutions pre-planned table of specification/blueprint.

The software for eExamination should be enhanced to accommodate subjective items.

The technical issues such as computer functionalities, power outages, Internet access and students ICT skills need to be continually addressed to ensure that they do not mitigate the successful implementation of the eExamination.

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