

National Open University of Nigeria, Maiduguri Study Centre Students Perception of E-Examination

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Abstract

At the 54th session of the Senate of the National Open University of Nigeria, the Senate approved the commencement of e-examination as from 2009/2010 academic session for all students of the University. Consequently, the students took their examination during that session electronically. This paper examines the perception of these students about e-examination. This is of special interest because it was the first time they were being examined electronically. The objectives of the study were to determine i) user familiarity with e-examinations; ii) students e-examination experience; iii) students satisfaction with the e-examination; and iv) students' perception of the quality of the e-examination. Survey design was used for the study and a total of one hundred and two students in their second, third and fourth years of study participated and served as samples of the study. The convenience sampling technique was used for the study and data was collected through the use of a questionnaire. Descriptive (frequencies, mean and standard deviation) and (chi-square) statistics were used for data analysis using Microsoft Excel (2007 Edition) and Smith's Statistical Package (SSP). The findings of the study revealed that students of NOUN Maiduguri study centre perceived low computer user familiarity which retarded their performance in the e-examination. They agreed to have an encouraging experience with the e-examination. Even though, the students were greatly satisfied with the e-examination, they still preferred the pen and paper examination. Furthermore, they perceived that the questions were well displayed and valid, however, they expressed dissatisfaction with the quality of e-examination questions. Based on the findings, recommendations were proffered for the students and the University Management. Amongst which are that the National Open University of Nigeria should introduce a mandatory general studies course on Introduction to Computer Studies and practice exercises for e-examinations as part of the course contents which students should be exposed to.

Keywords: e-examinations, Maiduguri Study Centre, National Open University of Nigeria, perception, Students.

Introduction

It seems indisputable that trends in computer technology, with specific reference to the development of the Internet and its introduction into distance learning have impacted greatly the delivery of distance education. Some of the positive impacts are on course delivery, feedback and assessment. In line with the above trend, at the 54th session of the Senate of the National Open University of Nigeria (NOUN), the Senate of the University approved the commencement of electronic examination (e-examination) from 14th June, to 14th July, 2010 for all students of the University. Consequently, Jegede (2010) (the then Vice Chancellor) posited that the e-examination introduced by the distance learning institution has come to stay. He assured the students that the University was prepared to ensure that its registered students participate in the examination without stress, adding that the maiden e-examination was to be used in the 39 centres across the country. He added that "about 30, 000 students are expected to take part in the new mode of examination." In fact, history has been made by the National Open University of Nigeria (NOUN) because it is the first time an African University has organized and implemented e-examination.

However, from students' point of view, examinations have a positive effect on their learning and are 'fair' when they: (1) relate to authentic tasks, (2) represent reasonable demands, (3) encourage students to apply knowledge to realistic contexts, (4) emphasize the need to develop a range of skills, and (5) are perceived to have long- term benefits (Sambell, McDowell & Brown, 1997). Research has also found that students' perception of the mode of examination, based on their former and recent learning experiences affect the quality of their learning outcomes (Segers & Dochy, 2001). Wang, Newlin, and Tucker (2001) further found that many web-based students expressed feelings of intense anxiety about the technology. This is because, those who have never taken an online course or who have little computer experience considered an online examination as frightening. Moreover, adult students have reservations about the use of technology due to low level of Computer literacy (Shedletsky, 2006).

The experience of learning is made less satisfactory when examination modes are perceived to be inappropriate by learners (Ramsden, 1997). This perhaps explains why students often display negative attitudes to what they consider to be inappropriate modes of examination. Entwistle and Tait (1990) found that students reported preference for modes of examination which allowed them to demonstrate their understanding.

Therefore, the question concerning assessment preferences ought to be: who prefers what? Rather than what is preferred by most (Birenbaum, 1997). Segers and Dochy (2001) observed that looking for students' perceptions of the mode of examination seems to be a valid method to show teachers ways to improve the learning assessment. This is because the most influential feature of the learning environment is the method of the examination procedures (Thomas & Bain, 1984).

Braslavsky (1999) argues that individuals in the 21st century will need to walk into the unknown, to surf uncertainty instead of holding to certainties, and to build themselves as subjects; they will need to develop their competency and identity. Research Crossouard (2007) suggests that educational assessment is powerful in shaping individuals' identities because feedback given by schools as well-established social institutions helps to build (or not) our own self-esteem and to strengthen (or not) our self-concept in the direction of social inclusion. Furthermore, the impact on practices and initiatives linked with assessment is determined at least as much by culture and politics as it is by educational evidence and values. Black and Wiliam (2005) argue that these practices depend strongly on the cultural context of a country.

Since the inception of the National Open University of Nigeria in 2002 (National Universities Commission, 2011) the students have been examined using the traditional method of pen and paper through writing of examinees responses. The process of producing results using paper and pen examination has been fraught with various problems leading to inability of the University to release results on time, inability of some students to get their results and several incomplete results. These problems have become embarrassing to the University. There was also delay in the release of examination results and failure to graduate and undergraduate students since inception and many others" (Aborisade, 2010). This possibly led to the introduction of e-examinations by the National Open University of Nigeria, in 2010 June/July, examinations, by the Senate of the University at its 54th session when it approved that students' assessment should be via e-examinations. Consequently, a practice website was hosted for the students to practice <http://41.222.211.112/mapleta/modules/ClassHomepage.do?cid=1> and become familiar with the process and practice of e-examinations. What then could be said to be the perception of these Open University students about e-examinations? That is what the researcher intends to find out. This paper therefore examines the perception of these adult students in Maiduguri study centre about the maiden e-examination.

Objectives of the Study

The following objectives guided the study:

- i) To determine the perception of NOUN students in Maiduguri study centre Computer user familiarity influence on e-examination;
- ii) To determine NOUN students in Maiduguri study centre perception of the e-examination experience;
- iii) To determine the perception of NOUN students in Maiduguri study centre overall satisfaction with e-examination;
- iv) To determine the NOUN students in Maiduguri study centre perception of the quality of e-examination.

Research Questions

The following research questions were answered in this study:

- i) What is the perception of NOUN students in Maiduguri study centre about Computer user familiarity influence on e-examination?
- ii) What is the perception of NOUN students in Maiduguri study centre about their e-examination experience?
- iii) What is the perception of NOUN students in Maiduguri study centre in terms of overall satisfaction with e-examination?
- iv) What is the perception of NOUN students in Maiduguri study centre about the quality of e-examination?

Methodology

A survey design was adapted for the study. The basic idea behind survey methodology is to measure variables by asking people questions and then to examine relationships among the variables. In most instances, surveys attempt to capture attitude (O'Connor, 2010). Convenient sampling was used to collect data from samples. Castillo (2009) stated that convenient sampling is a non-probability sampling technique where subjects were selected because of their convenience, accessibility and proximity to the researcher. The method is fast, inexpensive, easy and the subjects are readily available.

A questionnaire tagged National Open University of Nigeria Students E-Examination Perception Questionnaire (NOUNSEPPQ) was designed by the researcher. The questionnaire had 20 closed ended questions. The respondents were required to choose options from a Likert scale ranging from strongly agreed (4 points), agreed (3 points) disagreed (2 points) and strongly disagreed (1 point). The scale of 4 was the highest point and 1 the lowest point. National Universities Commission Virtual Institute for Higher Education Pedagogy (2003) provides the justification for the use of four rather than five scale response format. It states that by removing the undecided or neutral scale makes respondents find it faster to complete a set of questions presented in this fashion.

In addition, this format may increase comparability of responses. See appendix I for the questionnaire.

The questionnaire was validated by experts. In terms of reliability of the questionnaire, a trial testing of the instrument was conducted on 10 samples who did not take part in the study. The reliability coefficient was 0.87. This signifies that the questionnaire had a high reliability coefficient. The researcher contacted the centre's junior staff and pleaded with them to help with the administration of the questionnaire. This, they assisted the researcher very well. A total of one hundred and two 200-400 level students responded to the questionnaire. The 200-400 level students were chosen because they were the first to be subjected to the e-exam after having written the paper and pen examination for some time. The samples were contacted at the study centre when they came for consultations. The administration of the questionnaire took a period of five days within which the samples were contacted and their responses collected. Out of the 110 questionnaire issued, 102 questionnaire were well filled and returned. Information collected were coded in Microsoft Excel 2007 edition and analyzed using Smiths Statistical Package (SPS).

Data Analysis and Results

The focus of this study was to examine the perception of e-examination among students of National Open University of Nigeria, Maiduguri study centre. This was in terms of the influence of Computer user familiarity, e-examination experience, overall satisfaction and quality of e-examination. Frequencies, counts, percentages, mean, standard deviation and chi-square were used to analyze the data.

Research Question 1: What is the perception of NOUN students in Maiduguri study centre about Computer user familiarity influence on e-examination?

Table 1: Statistical distribution of responses on perception about Computer user familiarity's influence on e-examination

User Familiarity	SA	A	DA	SD	Total	\bar{X}	σ	X^2
I find it difficult typing my answers fast enough to meet the time allocated for the examinations.	62 <i>60.78</i>	3 <i>2.94</i>	1 <i>0.98</i>	36 <i>35.29</i>	102 <i>100%</i>	2.89	0.88	df=12 X ² Value= 270.2188 P value = 8.12954x 10 ⁻⁵¹
I feel my ability to click on correct responses affected my results.	98 <i>96.08</i>	4 <i>3.92</i>	0 <i>0</i>	0 <i>0</i>	102 <i>100%</i>	3.96	1.72	
I did e-examination practice exercises on the NOUN website.	33 <i>32.35</i>	2 <i>1.96</i>	0 <i>0</i>	67 <i>65.69</i>	102 <i>100%</i>	2.01	0.85	
I feel the practice assisted in getting me familiar with the nature of e-examinations.	33 <i>32.35</i>	2 <i>1.96</i>	0 <i>0</i>	67 <i>65.69</i>	102 <i>100%</i>	2.01	0.85	
I feel I need more exposure to Computer literacy to do well in future e-exams.	69 <i>67.65</i>	33 <i>32.35</i>	0 <i>0</i>	0 <i>0</i>	102 <i>100%</i>	3.68	1.61	
Total	295	44	01	170	510			

Source: Field Work, 2011

Table (Table 1) shows students' perception of computer user familiarity with influences of e-examination. The results revealed the students' ability to click on correct responses affected their results (X 3.96). The students' felt that they need more exposure to Computer literacy to do well in future e-exams (X 3.68) and the students' find it difficult typing answers fast enough to meet time allocated for the examinations (X 2.89). The students did the e-examination practice exercises on the NOUN website and the practice assisted in getting students familiar with the nature of the e-examinations were fourth and fifth respectively. The Table shows an overall average mean of 2.91. From Table 1, calculated X^2 is 270.22 and the critical or Table X^2 is 21.026. The degree of freedom was 12. Since the calculated X^2 is higher than the critical X^2 value, it could be said that the students perceived low computer user familiarity retarded their performance in the e-examination.

Research Question 2: What is the perception of NOUN students in Maiduguri study centre about their e-examination experience?

Table 2: Statistical distribution of responses on perception about e-examination experience

e-exam experience	SA	A	DA	SD	Total (%)	\bar{X}	σ	X^2
I am impressed with the immediate feedback of e-examination scores.	100 <i>98.04</i>	2 <i>1.96</i>	0 <i>0</i>	0 <i>0</i>	102 <i>100</i>	3.98	1.56	df=12 X ² Value= 319.9649 P value = 2.96480x 10 ⁻⁶¹
I was initially scared of the e-examinations.	66 <i>64.71</i>	31 <i>30.39</i>	2 <i>1.96</i>	3 <i>2.94</i>	102 <i>100</i>	3.57	1.52	
I was subsequently happy with the e-examinations.	33 <i>32.35</i>	62 <i>60.78</i>	2 <i>1.96</i>	5 <i>4.90</i>	102 <i>100</i>	3.21	1.20	
I feel the e-examination is a frustrating experience.	27 <i>26.47</i>	33 <i>32.35</i>	3 <i>2.94</i>	39 <i>38.24</i>	102 <i>100</i>	2.47	0.24	
I feel that if such e-examinations continue, I may drop out of the programme.	33 <i>32.35</i>	2 <i>1.96</i>	2 <i>1.96</i>	65 <i>63.74</i>	102 <i>100</i>	2.03	1.14	
Total	259	130	9	112	510			

Source: Field Work, 2011

Table 2 revealed perceptions of the students about the e-examination experience to include: they feel impressed with the immediate feedback of e-examination scores (X 3.98). They were initially scared of the e-examinations (X 3.57). They were subsequently happy with the e-examinations (X 3.21). Others are that the e-examination is a frustrating experience and if such e-examinations should continue, the students may drop out of the programme. Table 2 has an overall average mean of 3.05. From Table 2, calculated X^2 is 319.96 and the critical or table X^2 is 21.026. The degree of freedom was 12. Since the calculated X^2 is higher than the critical X^2 value, it could be said that the students agreed they had an encouraging experience with the e-examination.

Research Question 3: What is the perception of NOUN students in Maiduguri study centre in terms of overall Satisfaction with the e-examination?

Table 3: Statistical distribution of responses on overall satisfaction with the e-examination

Overall Satisfaction	SA	A	DA	SD	Total	\bar{X}	σ	X^2
I feel the time allocated to each examination is adequate.	31 30.39	69 67.65	0 0	2 1.96	102 100	3.26	1.25	df=12 X^2 Value= 398.8280 P value = 6.64522x 10 ⁻⁷⁸
I think the environment is highly conducive for examination.	98 96.08	4 3.92	0 0	0 0	102 100	3.96	1.72	
I think prompt attention is given to us by technical staff in terms of difficulty.	23 22.55	67 65.69	0 0	12 11.76	102 100	2.99	0.85	
I feel the e-examination is better than the former written examination.	34 33.33	1 0.98	3 2.94	64 62.75	102 100	2.05	0.52	
I feel technical factors such as poor network speed hinder the successful operation of the examination.	61 59.80	2 1.96	0 0	39 38.24	102 100	2.83	0.81	
Total	247	143	03	117	510			

Source: Field Work, 2011

Table 3 shows students' perceptions about the overall satisfaction with the e-examination. The Table shows students felt that the environment is highly conducive for examination (X 3.96). The time allocated to each examination is adequate (X 3.26) and technical factors such as poor network speed hinders the successful operation of the examination (X 2.99). Others include prompt attention was given to the students by technical staff in terms of difficulty and the e-examination is better than the former written examination. The table has an overall average mean of 3.02. Table 3 calculated X^2 is 398.83 and the critical or table X^2 is 21.026. The degree of freedom was 12. Since the calculated X^2 is higher than the critical X^2 value, it could then be said that even though students were greatly satisfied with the e-examination, the students' still preferred the pen and paper examination.

Research Question 4: What is the perception of NOUN students in Maiduguri study centre about the quality of the e-examination?

Table 4: Statistical distribution of responses on the quality of the e-examination

Quality of Examination Questions	SA	A	DA	SD	Total	\bar{X}	σ	X^2
I feel the questions are large enough to be seen on the screen.	35 34.31	65 63.73	2 1.96	0 0	102 100	3.32	1.30	df=12 X^2 Value= 543.8540 P value = 1.00153x 10 ⁻¹⁰⁸
I feel the language of the questions is clear enough.	47 46.08	9 8.82	0 0	46 45.1	102 100	2.56	0.35	
I feel the questions are free of errors.	2 1.96	6 5.88	4 3.92	90 88.24	102 100	1.22	1.69	
I think the questions are of the same standard with that of written examinations.	6 5.88	3 2.94	59 57.84	34 33.33	102 100	1.81	1.18	
I think the questions are in line with the course contents learnt.	31 30.39	63 61.76	2 1.96	6 5.88	102 100	3.17	1.16	
Total	121	146	67	176	510			

Source: Field Work, 2011

Table 4 shows students' perceptions about the quality of the e-examination. The students felt that the questions are large enough to be seen on the screen (X 3.32). The questions were in line with the course contents learnt (X 3.17). The language of the questions was clear enough (X 2.56). Others include, the questions were free of errors and the questions are of the same standard with that of written examinations. The table has an overall average mean of 2.42. Table 4 calculated X^2 is 543.85 and the critical or table X^2 is 21.026. The degree of freedom was 12. Since the calculated X^2 is higher than the critical X^2 value, it could be said that students' perceived the questions were well displayed and valid however, they expressed dissatisfaction with the quality of e-examination questions.

Summary of Findings

The summary of the findings of the study reveal that the students' perception about the e-examinations are:

- (a) The students expressed that low computer user familiarity affected their performance in the e-

examination;

(b) The students agreed that they had an encouraging experience with the e-examination;

(c) Even though students were satisfied with the e-examination, the students' still preferred the pen and paper examination; and

(d) While students' perceived that the questions were well displayed and valid, they expressed dissatisfaction with the quality of the e-examination questions.

Discussion

The first finding was the students expressed that low computer user familiarity affected their performance in the e-examination. The finding agrees with studies that shows computer anxiety and lack of confidence by adult students influence both the acceptance of computers and their use as a teaching and learning tool (Gressard & Loyd, 1986; Smith & Kotlik, 1990; Woodrow, 1991; Fletcher & Deeds, 1994). Also, Loyd and Gressard, (1984, p.67) maintained that it is becoming increasingly evident that familiarity with computers and the ability to use them effectively will be of critical importance to success in many different fields. In addition, adult students have reservations about the use of technology due to low level of Computer literacy (Shedletsky, 2006). The reason for this finding seem to be that most office operations have long before now, been manually carried out. Moreover, the initial high cost of personal computers, poor electricity supply, rural-urban differentials in availability of Information Communication Technologies and what people seemingly regard as the difficult skills required for operating a personal computer.

The second finding was that students agreed that they had an encouraging experience with the e-examination. Adewale, Ajadi and Inegbedion (2011) support this finding when they stated that the Senate of the University had to grapple with serious issues including the preparedness of the students to face electronic examination. Also, Wang, Newlin, and Tucker (2001) further found that many web-based students expressed feelings of intense anxiety about the technology. This is because, those who have never taken an online course or who have little computer experience, considered an online examination as frightening. Adult students have reservations about the use of technology due to low level of Computer literacy (Shedletsky, 2006).

The third finding was that even though students were satisfied with the e-examination, the students' still preferred the pen and paper examination. The possible reasons for this finding could be due to the fact that during the students first year of study; they were examined using paper and pen examination which they had for a long time. Thus, students had to express initial fear because it is normal with human beings to fear change initially. The researcher believes that the students became happy with the e-examination because they were able to confront their fears of what the e-examination might turn out to be. Lastly, the immediate feedback offered in the e-examination was highly commended by the students because it offers immediate or real time feedback of the students' performance. This has not been the case with the paper and pen examination which took some months for the students to know their performance.

Kinyanjui (1995) supports this position when he states that certain barriers to technology-based learning, exists. The findings also support Reis' (2000) who indicated that students are often frustrated with the on-line environment. However, Shen, Hiltz and Bieber (2006) found that students were satisfied online examination. The reasons for this researcher's findings are likely due to the following factors: First, trial testing of timing for the examination might have been carried out to determine appropriate duration of the examinations. Secondly, NOUN Maiduguri Study Centre made arrangement with University of Maiduguri, Maiduguri Borno State, so that the e-examination was carried out in the Electronic Test Centre which has been adequately prepared for such purpose. In addition, the low bandwidth connection witnessed in Nigeria and Africa at large may explain the reasons for network speed. While students' perception that the pen and paper examination is better than e-examination could be attributed to their age long psyche of exposure to paper and pen examination. Lastly, the provision of technical assistants to troubleshoot problems could also explain why the students found the examination interesting.

The fourth finding was that students' perceived that the questions were well displayed and valid, they however, expressed dissatisfaction with the quality of the e-examination questions. Pollitt, Hutchinson, Entwistle and De Luca (1985) support this finding when they identified that one of the categories of question difficulty is rooted in the language and the presentation of questions. The reason for the finding could likely be as a result of any or both of the following reasons: the typists who type the questions are incompetent or not sound enough or even under so much work pressure. Secondly, the examiners' writing was not legible enough for the typists to comprehend. Thirdly, the questions the examiners submitted were in manuscript form with responsibility of accuracy of the typed questions resting with the typist's instead of the examiners submitting typed soft copies for which they take responsibility for.

Conclusion

The study's aim was to examine the perception of e-examinations among students of National Open University

of Nigeria, Maiduguri Study Centre. The study found certain areas that need to be tackled to ensure the sustainability of the e-examination. These areas were perceived as low computer user familiarity retarded their performance in the e-examination, some students feared their ability to cope with the e-examination, the students' still preferred the pen and paper examination and students' expressed dissatisfaction with the quality of e-examination questions.

Recommendations

The following recommendations were made based on the findings of this study; thus:

- i. The National Open University of Nigeria should introduce a mandatory general studies course on Introduction to Computer Studies. The aim should be to introduce students to the needed skills to cope with e-examinations. The practice exercises should be part of the course content which the students should be exposed to.
- ii. The National Open University of Nigeria, Maiduguri Study centre should organize intensive counseling sessions for the students from time to time to help students adapt to the changes in the University examination taking.
- iii. The University counselors should dwell more on re-orienting the students psyche to wake up to the realities of current times. The management of National Open University of Nigeria, Maiduguri study centre should use various ways to encourage students to go for these counselling sessions.
- iv. The National Open University of Nigeria, should pay greater attention to quality control of their e-examination questions. This they could do by making the lecturers responsible for typing and vetting the accuracy of the questions, which they submit preferably as soft copies, by so doing, the quality of the questions would most likely be improved.
- v. Lecturers should assume responsibility for the poor quality of their questions used for the e-examination.
- vi. NOUN should employ or assign moderators to promote quality assurance of the e-examination questions to ensure they meet acceptable standards before they can be administered to the students electronically.

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