

A SURVEY OF PROSPECTIVE UNIVERSITY ADMISSION CANDIDATES ATTITUDE TOWARDS COMPUTER BASED TESTING IN UNIVERSITY OF CALABAR, NIGERIA

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Abstract

The study investigated the pattern of prospective university admission candidates attitude towards computer based testing in university of Calabar. One research question and a hypothesis guided the study. The study adopted descriptive survey design using a sample of 426 prospective tertiary institution candidates who scored 200 and above in the 2015 UTME examination and applied for admission in the university of Calabar. Data was gathered through the researchers' developed questionnaire called attitude scale of candidates on the use of Computer Based Testing (CBT). The instrument was validated by experts in measurement and evaluation. The reliability coefficient of .99 as a measure of internal consistency was established through the use of Spearman Brown Prophecy formula (Rtt). The research question was answered using mean and standard deviation while population t-test was used to answer the research hypothesis. The findings indicated that: the pattern of prospective university admission candidates' attitude towards computer based testing was significantly positive. Based on the findings of the study, recommendations were made including that. Tutorial packages on past CBT examination should be sold alongside the UTME and post UTME forms so that candidates can practice using their own computer or in any business centre close to them. Such tutorial packages, packaged in compact disc (CD) will help prepare students prior to the exam, thus giving both rural and urban dwellers equal opportunity in preparation for CBT test.

Key words: Computer use Attitudes, Computer-based Testing, Electronic Assessment

Introduction

The process of teaching and learning is taking a new turn in this era where

“Information and Communication Technology (ICT)” has “become an indispensable tool in the administration of educational assessment. This development has led to tremendous availability of educational resources and the promotion of different research in our educational institutions. An important component of this innovative trend in education is the adoption CBT as a mode of entrance into Nigerian universities and colleges. Prior to

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this form of assessment, students were assessed through the use of a traditional method called Paper- Pencil Test (PPT). This method of assessment involves the use of p, pencil and paper to write a test. This method has been criticized because of the huge costs and excessive paper work in printing and distribution of examination materials (syllabuses, brochures, instruction and guidelines to invigilators and supervisors paper etc), the logistic of examination administration in terms of personnel vehicles, monitors and security covers (police, civil defense etc), massive examination leakage, impersonation, and bribe taking by supervisory teams and invigilators of examination. The adoption of CBT as a mode of testing has helped to promote effective learning by testing a wide range of skills (Bodmann & Robinson, 2004). It has helped to improve greater efficiency where tens of thousands of answer scripts can be stored on a server as compared to the physical space required for paper scripts. CBT has also improved reliability as it makes marking easy and more reliable compared to human marking. It provides instant feedback to students, greater flexibility with respect to location and timing.”

In Nigeria, different examination bodies such as West African Examinations Council (WAEC), National Examination Council (NECO), National Board for Technical Education (NABTEB) and National Teachers Institute (NTI) among others register and test their candidates through electronic means” (Olamale & Shafil, 2010). As a result of the numerous benefits of the present CBT mode of testing students in Nigeria it was introduced to replace PPT especially in the “conduct of the Unified Tertiary Matriculation Examination (UTME) conducted by the Joint Admissions and Matriculation Board (JAMB) with the” aim of eliminating any form of examination malpractice that has been the major challenge in the conduct of public examination. Being the current mode of testing, its success depends in part to the attitude of users towards it. So far, there has been no research on attitude of prospective university admission candidates towards CBT in spite of the considerable research on it.

Researchers have also performed large scale review of students test difference in their performance in CBT and PPT and have generally found that while CBT is similar in format to PPT, it has little or no effect on test performance (Darrell, 2003). Findings have also revealed that a significant relationship exist between computer attitude and its use in institutions of higher learning, general usefulness, behavioral control and pedagogical use (Yuen & Ma, 2002). Karadeniz (2009) studied the influence of paper based, web based, and mobile based assessment on students’ achievement. The result from the study showed that students had positive attitude towards web based and mobile based assessment due to ease of use and instant feedback. More so, web based assessment was most favored while paper based assessment was least favored. However few researchers acclaim that the use of CBT empowers candidates in their learning abilities. Emmanuel

and Durojaye (2014) highlighted that CBT provides a socially constructed learning environment which is essential for effective assessment.

According to Garrison and Cleveland-linnes (2005) CBT makes learners competent and arouse confidence among candidates for pursuing their respective courses and even undergo higher studies. Rickets and Wilks (2002) agreed that students who have good learning skills and have high confidence in their academic ability, tend to prefer the constructed response type of assessment over the multiple choice type and vice versa while students with poor learning skills tend to have low confidence in the academic ability and prefer the multiple choice over the constructed - response type of assessment. In another study, Agbo (2016) showed that gender, proposed field of study and candidates' exposure had a significant influence on attitude. As a result of these, there has therefore been a considerable concern about the lack of research evidence on attitude towards this mode of testing especially from the perception of prospective university candidates. This study is thus designed to find out the attitude of prospective university admission candidates towards CBT in the University of Calabar, Nigeria.

Research questions

- (i) What is the pattern of prospective university admission candidates' attitude towards CBT?

Null hypotheses"

- (i) Pattern of prospective university admission candidates' attitude towards CBT is not significantly positive.

Methodology

Research design: The study adopted a descriptive survey design; this was because a large sample was drawn from the target population, its characteristics studied and the results obtained from the sample were generalized on the population.

Subjects:

The subject used for this study were 426 prospective university candidates selected through accidental sampling approach from a population of 8, 520 candidates who chose University of Calabar as their first choice and scored 200 and above in the 2015 Unified Tertiary Matriculation Examination (UTME). Data available from the office of the director information and communication technology, University of Calabar showed that candidates for post UTME 2015 were 4086 males and 4434 female candidates.

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Measures:

An instrument named Attitude Scale of Candidates on the use of Computer Based Test (CBT) which was a 24 items four point Likert type questionnaire with the following response options Strongly Agree (SA) =4, Agree (A) =3, Disagree (D) = 2 and Strongly Disagree (SD) =1was used. The instrument was validated by experts in the in measurement and evaluation based on face and content validities. The reliability coefficient of 0.99 as a measure of internal consistency was established through the use of split half method of reliability and correlated using spearman brown prophesy formula (rtt).

Method of data analysis: Mean and standard deviation were used to answer the research question while a population t–test was used to test the null hypothesis

Results

The result of research question 1 is summarized in table 1 while those of hypothesis are presented in table 2

Table 1: General pattern of prospective university candidates’ attitude towards CBT

Item description	Agreement	Disagreement
I enjoy writing examination using the computer	349(81.1)	77(18.9)
I support the plan of JAMB to administer UTME only in the Computer Based Testing from 2015	334(78.4)	92(21.6)
I see Computer Based Testing as making senior secondary students flow with others in the technological world	378(88.7)	48(11.3)
I welcome wholly the application of Computer Based Testing in assessment of senior secondary student.	331(78.8)	95(22.3)
I am excited at the speed of getting result after taking CBT test	391(91.8)	35(8.2)
If I have my way, I will like Nigeria to hold on Computer Based Testing for a few years before we adopt it fully	116(27.3)	310(72.8)
I fear that I may not know what to do with the computer if Computer Based Testing continues	356(83.6)	70(16.4)

I fear that the computer may shutdown or malfunction when Computer Based Testing is going on.	133(31.2)	293(68.8)
My fear is that electricity will go off when Computer Based Testing is going on.	122(28.6)	304(71.4)
I don't think my school has prepared her student well enough for Computer Based Testing examination	218(51.2)	208(48.8)
I feel network fluctuation affect a free flow of the examination	93(21.9)	333(78.2)
The number of computers in a centre may not be able to carry all the students in the centre	100(23.4)	326(76.6)
Computer Based Testing form of examination delays administration of exams.	162(38)	264(62)
Computer Based Testing form of examination delays administration of exams.	162(38)	264(62)
I feel there is no room for cheating since all students have different questions.	325(76.2)	101(23.7)
I feel all students will be subjected to the same timing.	377(88.4)	49(11.5)
I feel the rich can cheat with Computer Based Testing data base.	166(39)	260(61.1)
I feel students in private schools will do better in CBT compared to students in public schools.	269(63.1)	157(36.8)
I feel my insufficient literacy in computer may affect my performance in CBT.	204(47.9)	222(52.1)
My parents cannot afford computer for home use.	140(32.8)	280(67.1)
My parents feel buying for home use is a secondary issue.	206(48.4)	220(51.7)
My parents feel the introduction of CBT will help their children to up cope with modern method of assessment	374(87.8)	52(12.2)
My parents feel network inaccessibility may affects students performance	266(62.4)	160(37.6)
My parents feel students with high form of disability may not do well in CBT as compared to Paper Pencil Test (PPT).	178(41.7)	248(58.3)

The result on table 1 presents the general pattern of prospective university admission candidates' attitude towards CBT. The result revealed that a greater proportion of the

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respondents (above 50 percent) indicated that they have a positive attitude towards CBT. This was determined by their pattern of response to the following questions in table 1: I enjoy writing examination using the computer, I support the plan of JAMB to administer UTME only in the Computer Based Testing, I see Computer Based Testing as making senior secondary students flow with others in the technological world, I welcome wholly the application of Computer Based Testing in assessment of senior secondary student, I am excited at the speed of getting result after taking CBT test, I fear that I may not know what to do with the computer if Computer Based Testing continues, I don't think my school has prepared her student well enough for Computer Based Testing examination, I feel there is no room for cheating since all students have different questions, I feel all students will be subjected to the same timing, I feel students in private schools will do better in CBT compared to students in public school, My parents feel the introduction of CBT will help their children to up cope with modern method of assessment, and My parents feel network inaccessibility may affects students' performance.

On the other hand, the result shows that most candidates do not have a positive attitude towards CBT. This was determined by their pattern of response to the questions in table 1: If I have my way, I will like Nigeria to hold on Computer Based Testing for a few years before we adopt it fully, I fear that the computer may shutdown or malfunction when Computer Based Testing is going on, My fear is that electricity will go off when Computer Based Testing is going on, I don't think we have received sufficient information about CBT form of examination, I feel network fluctuation affect a free flow of the examination, The number of computers in a centre may not be able to carry all the students in the centre, Computer Based Testing form of examination delays administration of exams, I feel the rich can cheat with Computer Based Testing data base, I feel my insufficient literacy in computer may affect my performance in CBT, My parents cannot afford computer for home use, My parents feel buying for home use is a secondary issue, and My parents feel students with high form of disability may not do well in Computer Based Testing as compared to Paper Pencil Test (PPT).

The result is presented on table 2, "with a mean score of 63.77 and a standard deviation (SD) of 6.361. It also produces a t-value of 12.23 with a p-value of 0.000 which is less than the .05 significance level" with 425 degree of freedom. This implies that the pattern of prospective university candidates' attitude towards CBT is significantly positive. Therefore the hypothesis in null form was rejected.

Table 2: Population t-test summary of prospective university candidates' attitude towards CBT

Source of variables	N	\bar{X}	SD	t-value	p-value
Attitude towards CBT	426	63.77	6.361	12.23	0.000

*p <0.05, df = 425 (Reference mean = 60)

Discussion

The result of the study with respect to research question 1 suggests that the pattern of prospective university admission candidates' attitude towards CBT is significantly positive. Using the result of assessment to diagnose candidates' response pattern to the following questions: I enjoy writing examination using the computer, I support the plan of JAMB to administer UTME only in the Computer Based Testing from 2015, I see Computer Based Testing as making senior secondary students flow with others in the technological world, I welcome wholly the application of Computer Based Testing in assessment of senior secondary student, I am excited at the speed of getting result after taking CBT test, I fear that I may not know what to do with the computer if Computer Based Testing continues, I don't think my school has prepared her student well enough for Computer Based Testing examination, I feel there is no room for cheating since all students have different questions, I feel all students will be subjected to the same timing, I feel students in private schools will do better in CBT compared to students in public school, My parents feel the introduction of CBT will help their children to up cope with modern method of assessment, and My parents feel network inaccessibility may affects students' performance.

It appears from the result that prospective university admission candidates' attitude towards CBT in University of Calabar is significantly positive to meet with such form of assessment. The result is encouraging since the examination of candidates' assessment pattern towards CBT was characterized by multiple choice examinations. This findings confirms the findings of "Karadeniz (2009) who studied the impact of paper based, web based and mobile based assessment on students achievement which revealed that students' had positive attitude towards web based

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and mobile based assessment due to ease of use, comprehensive and instant” feedback. It is therefore important that concerted efforts are directed towards promoting the high pattern of prospective university candidates’ attitude towards CBT.

In relation to hypothesis one the study showed that the pattern of prospective university admission candidates’ attitude towards CBT is significantly positive. Going by the mean score on table 7, prospective university candidates’ attitude towards CBT was observed to have a mean score of 63.77 and a “p-value of .000. This finding is consistent with” that of Garrison and Cleveland-linnes, (2005), who concluded that CBT makes learners competent and arouses confidence among candidates in pursuing their respective course and even undergoes higher studies.

Conclusion and Policy Implications

The need for the knowledge of computer or candidates being exposed to computer cannot be over emphasized. This is because of the changes in the educational trend motivated by technology. The school plays a very significant role in preparing candidates for computer based testing form of examination, just as they play the same role in preparing students for the country and the world at large. From the result of the study, it was observed that pattern of prospective university admission candidates attitude towards CBT is significantly positive.

This conclusion implies that tutorial packages on past CBT examination should be sold alongside with UTME and post UTME forms so that candidates can practice on their own before the exam. Such tutorial packages, packaged in compact disc (CD) will help prepare students prior to the exam, thus giving both rural and urban dwellers equal opportunity in preparation for CBT test. In addition, Pre-CBT seminars which emphasize what prospective candidates are expected to do before, during and after CBT test should be instituted. Such seminars/course should be practical in nature and should emphasize on the acquisition and uses of basic computer components like the mouse and keyboard which are the essential tool in any CBT test.

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