Students' Perceptions of Computer-Based Test in Nigerian Universities

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Abstract
Some Nigerian universities have adopted computer-based test (CBT) for their courses/examinations and means of testing students. The perceptions of students on CBT in Nigerian universities have not been established and very few studies have focused on determining students' perceptions of CBT. Thus, there was a need for this study to investigate students' perceptions of CBT. The objective of this study was to investigate students' perceptions of the usefulness; ease of use and credibility of CBT in Nigerian universities. The study adopted survey method of descriptive research. Sample was drawn from students from four Nigerian universities: Covenant University; Kogi State University; University of Ibadan; and University of Ilorin. A total of 1506 students' represent the sample for the study. Data was analysed using percentage and mean to answer the research questions. The study revealed that students also had positive rating on perceived usefulness (64.3%), ease of use (66.1%), and credibility (67%) of CBT. The study concluded that students perceived CBT as useful, easy to use and credible. The implication is that the perception of the usefulness, ease of use and credibility of CBT will lead to increase in use of CBT in Nigerian universities. It was recommended among others that Nigerian universities should improve the efficiency of computer-based test to increase its credibility.

Key words: *Computer-based test, Credibility, ease of use, students perception*

Introduction

Test is an instrument used to make judgments and assessment of teaching and learning. It is also used as a screening instrument in some organizations. In schools, test is used to measure what learners have

learnt at the end of a unit. It is used to promote students, to ensure they have met the required standards on their way towards being certified for completing school or programme of study, or to enter certain occupations, or as a method for selecting students for entry into tertiary institutions.

Test has to do with merit and worth of the data as applied to a specific use or context. Teachers and administrators need analysis skills to effectively interpret and make value judgments about tests' results. Tests and testing practices are often based on provision of good quality tests to test takers in a cost-effective manner, with the help of test sponsor, test developer, and test administrator (Barbara, 2002).

Alabi, Issa and Oyekunle (2012) identified the paper-based test with many problems such as: tedious processes as the examination was conducted at various and distant centres simultaneously and marked manually; high risks of accidents during travels by both the staff involved and the prospective students for the paper examination; cost of conduct of the examination on the part of the examination bodies including honorarium for invigilators, coordinators, markers collators and other allied staff; subjective scoring and plausible manipulation of results; late release of results and missing grades; bank draft method of payment by candidates riddled by fraud, loss of money, stress and trauma. The problems of paper-based test also involved heavy resources in terms of manpower and funding (Abubakar & Adebayo, 2014). Davey (2011) concluded that a wide variety of options is now available for conducting test out of which technology is one of the most important.

Zhang, Powers, Wright and Morgan (2003) asserted that technology is useful for constructing responses on screen, allows marking quality to be monitored in real time and potentially eliminating the need to gather examiners together. In recent time, technology offers many new opportunities for innovation in educational assessment through potentially and powerful scoring, reporting and real-time feedback mechanisms. Universities have implemented numerous attempts and efforts to integrate information and communication technologies (ICT) into administration and instruction process by the creation of the management information system (MIS) unit (Mejabi & Raji 2010). It is on this note that universities integrate part of information and technology for the purpose of testing the students. Therefore, computer and internet technologies have been useful for many purposes such as tracking and recording students' information, administration of personnel and accounting, and delivering course contents, announcements and assignments (Bennett, 2009). More so, computer and related technologies

provide powerful tools to meet the new challenges of designing and implementing assessments methods that go beyond the conventional practices and facilitate to record a broader repertoire of cognitive skills and knowledge (Olumorin, Fakomogbon, Fasasi, Olawale, Olafare, 2013).

Andrew, Pullen and Harper (2009) concluded that some of the advantages of CBT to institutions and learners are time analysis of responses to the question level to better discriminate between candidates; including video in questions for scenarios in authentic assessment; adaptive testing, where the next question to be posed is determined by prior response(s); question banks and randomization of questions and response orders to reduce cheating; automated analysis of results from entire candidate cohorts and immediate feedback can be given. CBT in the conduct of assessment has its disadvantages which are expense in buying a computer; technical issues during examinations; too dependent on computers for test; cuts cost of paper and administration (Pinner, 2011). Also human error can never be completely accounted for when using computers for test.

The use of computer-based tests (CBTs) has increased significantly over the last few years. The most common type of CBT is the linear CBT which is a fixed-length computerized assessment that presents the same number of items to each examinee in a specified order and the score usually depends on the number of items answered correctly. Evidently, linear CBT imitates a Paper-based test that is presented in a digital format and pays little or no attention to the ability of each individual examinee. Also computerized adaptive testing (CAT) is a special type of computer-based test. Each examinee takes a unique test that is tailored to his/her ability level (Van der Linden & Glas, 2000).

The face of examinations in Nigeria is gradually getting a new look due to the introduction of the computer-based test (CBT) system. CBT system has been used by a number of Nigerian universities to conduct their post UTME (Unified Tertiary Matriculation Examination) for prospective students. It all started with the University of Ilorin and Covenant University some years ago.

Statement of the Problem

The use of computer for test administration in university education is to change the state of test administration but the integration has not yet being fully utilized in Nigerian universities. Most past studies on Computer-Based Test in Nigeria universities (Raji & Jolayemi 2010; Tella & Bashorun 2011) have considered students' attitudes toward computer-

based test and effectiveness of Computer-Based Test on students' academic performance.

Doolan and Barker (2005) conducted a study on evaluation of computing students' performance using Group Based Learning Online and Offline. They concluded that the students had positive attitude towards the online system. The study only measured the students' attitude, but did not measure the other constructs such as usefulness, ease of use and fairness of the CBT. Bacon (2003) also carried out an online assessment of a first year Data Handling Course within Physics Degree Programme. The study revealed that few students found the system easy to use and majority of them perceived the marking unfair. Most past studies on Computer-Based Test in Nigeria universities e.g (Raji & Jolayemi 2010; Tella & Bashorun 2011) have considered students attitudes towards computer-based test and effectiveness of Computer-Based Test on students' academic performance.

However, only few researchers had determine User's perceptions of CBT (e.g Nurcan 2010, Terzis & Economides 2011, JImoh, Yussuff, Akanmu, Enikuomehin, & Salman, 2013) but the researchers in their studies did not create valuable insights into the students perceptions of CBT. Thus this study created valuable insights into CBT in relation to usefulness, ease of use and credibility.

Review of Related Literature

Educational system has its capability to continuously serve the stakeholders within the immediate environment. Education is fundamental and basic to human and the development of the society thereby making people to be self-reliant. The development of a society has been associated with the literacy level of its citizens, which helped in the establishment of universities globally with the mission of promoting the life of the mind store and transmit specialized knowledge, sophisticated enterprise, higher forms of culture and ethical basis of conduct (Obielumani, 2009).

According to Ehiametalor (1999), university is the highest level of schooling and its natural characteristics make it different and unique from any other institution in the world. Universities can also be described as a place where professionals of diverse disciplines can follow lines of inquiry determined individually and collectively, and not dictated by anyone else, on either ideological or practical grounds (Brickel, 1975).

University alone make inquiry and make teaching to constitute creativity so that knowledge and insight of scholars and the methods by which they gained them are shared with students. Privateer (1999)

stressed that universities are complex cultures that make things in order and manage information and are constituted as dense information networks held together by ideological and technological strands. Osagie (2001) asserted that University education is set for objectives such as, instruction in skills, promotion of the general powers of the mind, advancement of learning and transmission of a common culture as well as meeting the needs of the economy. In line with this, therefore, the universities ensure that the degree programmes are of minimum standards that will ensure that students acquire appropriate skills, level of competency and overall development that will enable them fit adequately into the world of works in the larger society.

Nigerian university system has grown considerably since its modest beginnings with the establishment of the first University, (the University of Ibadan) as a College of the University of London in 1948. The Nigerian University System (NUS) has expanded systematically over the years with increasing participation of government and the private sector, such that today, Nigeria has one hundred and twenty three universities with a total student enrolment of about 1.2 million in the conventional face-to-face mode and some 100,000 students in the Open and Distance Learning (ODL) mode (Okojie, 2009).

According to Urah (2005), University education in Nigeria has undergone a series of rapid expansion since its introduction in 1948. The total student population of Nigerian university students has grown from a mere 1,395 in 1960 to 40,000 in 1976 when the Universal Primary Education (UPE) scheme was introduced. It rose to 172,000 in 1988 when the first group of graduates from the new 6-3-3-4 system of education was first enrolled in the universities. By the year 2000, the population stood at 448,230, and it is projected that by the end of 2005, National Open University would accommodate about 90,000 students. National Universities Commission (NUC) was established as an administrative unit in the cabinet office in 1962 and charged with ensuring orderly development of university education in Nigeria, maintenance of its high standard and ensuring that it is adequately funded. The NUC became a statutory body by virtue of Act No. 1 of 1974, as a parastatal under the federal ministry of education concerned with the maintenance of high standards of quality in Nigerian Universities; government introduced system-wide accreditation of their academic programmes by provisions of Act No 16, 1985. This law empowers the NUC to lay down minimum academic standards for all the academic programmes taught in Nigerian universities and also to accredit them (Okojie, 2009)

To establish and maintain high quality standards, the universities and the NUC have a shared responsibility in addressing the following key areas;

1. Minimum academic standard
2. Accreditation
3. Carrying capacity and admission quota
4. Visitation
5. Impact assessment
6. Research and development
7. Publications and research assessment
8. Structures, infrastructures and utilities (Aborisade, 2010)

Since the inception of the Universities in Nigeria, the conducts of examinations as well as the process of producing results have been fraught with various problems leading to inability to release results on time, inability of some students to get their results and several incomplete results. Since inception, these problems have become embarrassing to the university with comment like; delay in the release of examination results, failure to graduate students and many others (Aborisade, 2010).

The problems associated with conventional methods in the university made National Universities Commission (NUC) recommend the introduction of Management Information System (MIS) to Nigerian universities in 1987 to alleviate the problem of data collection, information processing and storage in Nigeria universities (Mejabi & Raji, 2010).The improvement on MIS led to the total adoption of technology into the university system.

Universities in Nigeria are making use of all the available opportunities of ICT in the country which has been helping in most of the institutional practices and processes. One of the uses of ICT for assessment in the university is the Computer-Based Testing (CBT). It is a method of administering tests in which the responses are electronically recorded, assessed, or both. Universities are increasingly adopting computer based test to replace the paper-based test for academic assessment of students (Best, 2002; Ricketts & Wilks, 2002; Bertolo & Lambert, 2007; Sieber & Young, 2008). This rapid adoption is due to the numerous advantages the schools derived from CBT over the paper-based test considering the large population of students. Some of the advantages include: increased delivery, administration and scoring efficiency, improved test security, consistency and reliability, faster response rate to mention a few (Riku, Laurif & Ari, 2001; Ricketts and Wilks, 2002).

In Nigeria paper based testing is still very predominant though some universities have started embracing Computer-based testing technology. The CBT applications used by the few institutions using this technology administer mainly multiple choice questions. In universities, like University of Ilorin, the number of students increased drastically in the past few years and the conventional examination method became time consuming in term of the examination time for evaluation and assessment. A solution of examination in classes where there are large numbers of students is an automated testing system and this was introduced by the University of Ilorin in 2008, primarily to address the population problem.

Information on current and expected future uses of CBT has been revealed by Research and evaluation specialists. Lecturers do administer or use computer-based tests for providing information about interpreting test scores and using the scores appropriately. Also, students prepare appropriately for computer-based tests. Stefl-Mabry (1999) declared that an understanding of how and why users either accept or reject new technologies is paramount to the issue of effective integration of a technology into organizational functions.

Research Questions

The following research questions were answered in the study.

1. How do students perceive the usefulness of computer-based test in Nigerian universities?
2. How do students perceive the ease of use of computer-based test in Nigerian universities?
3. How do students perceive the credibility of computer-based test in Nigerian universities?

Methodology

The study adopted the descriptive approach of the survey type. The population for this study consisted of students in the Universities that are involved in the use of Computer-based test in Nigerian Universities. Simple random sampling was used to select sample from the students' population. This is because the study focused on students involved in computer-based test in selected Nigerian universities. The general sample size was determined from the total number of students who were users of computer-based test in the selected Nigerian universities during the 2012/2013. Samples were selected only from the two geo-political zones. University of Ilorin and Kogi State University were selected from the North Central; while University of Ibadan and Covenant University were selected from the South West.

Anecdotal record also revealed that, a total of 24,122, students from the University of Ilorin which spread across 12 faculties were involved in CBT. A total of 13,408 students from the University of Ibadan which spread across 14 faculties were involved in CBT in that university. Similarly, a total of 15,947 students from Kogi State University spreading across 8 faculties were involved in CBT while 7,571 students from Covenant University spreading across two faculties were involved in CBT. This gives a total of 61,048 as the target population of the students in this study. The sample selection of these students was based on Israel's model. The model posit that given a total population of N, if ±3% is taken for precision levels where confidence level is 95% and p=.5, the sample (n) should be = X (Israel 2003).

Table 1: Sample Size Determination for Students

Size of Population	Sample Size (n) for Precision (e) of:			
	±3%	±5%	±7%	±10%
2,000	714	333	185	95
3,000	811	353	191	97
4,000	870	364	194	98
5,000	909	370	196	98
6,000	938	375	197	98
7,000	959	378	198	99
8,000	976	381	199	99
9,000	989	383	200	99
10,000	1,000	385	200	99
15,000	1,034	390	201	99
20,000	1,053	392	204	100
25,000	1,064	394	204	100
50,000	1,087	397	204	100
100,000	1,099	398	204	100

Source: Isreal Model (2006)

By applying Israel Model to this study, the total population of the students making use of computer-based test is 61,048 , if ±3% is taken for precision level where the confidence level is 95% and P=.5 the sample (n) is =

1,099. From the perspective of Israel model, the study sample may be more than the actual figure given by the calculation but should not be less than it. This justifies the 1,506 used as sample in this study which is more than 1,099.

The sample frame of students for this study was a register containing CBT courses and the number of students that were using CBT for their courses per university and universities report which contain the total number of students in the universities. It was from this report that the students sampled for this study were taken following the Israel model. For the breakdown of the students' sample selection, see table 2.

Table 2: Students Sample Selection

Universities	*Total number of students*	*Sample*
University of Ilorin	24,122	390
University of Ibadan	13,408	378
Kogi State, University	15,947	385
Convenant University	7,571	353
Total	61,048	1,506

A total of 1506 students out of which 390 students were from the University of Ilorin, 378 students from the University of Ibadan, 385 students from Kogi State University and 353 students from Covenant University represented the students

A researcher-designed questionnaire entitled "Students' perceptions of computer-based test in Nigerian universities (SPCBTNU)" was used for the collection of data in this study. The reliability of the questionnaire used in this study was achieved by administering the questionnaire on students of Federal University of Technology, Minna. Cronbach Alpha was adopted to determine the reliability of the instrument. The item on the Lecturers' questionnaire had reliability co-efficient of 0.88.

Data Analysis Techniques

The results of the administered researcher-designed questionnaire was subjected to inferential and descriptive statistics and was coded and analyzed using Statistical Package for Social Sciences (SPSS) version 20.0 for windows. The statistical tests used were the descriptive analysis involving the percentage and mean to answer the research questions 1 to 3.

Result

Research Question 1:

How do students perceive the usefulness of Computer-Based Test in Nigerian Universities?

This question was asked to find out how students perceived the usefulness of computer-based test in Nigerian Universities. To answer this question, the responses to the items that measured the students' perceived usefulness of computer-based Test in Nigerian universities were analyzed. The results are as shown in Table 3.

Table 3: Students' Perceived Usefulness of Computer-Based Test in Nigerian Universities (N=1506)

Perceived Usefulness of Computer-Based Test	Strongly agree %	Agree %	Strongly disagree %	Disagree %	mean
1. Using CBT for my test enables me to accomplish examination tasks more quickly.	33.0	33.7	6.0	27.3	2.72
2. CBT improves my academic performance.	23.4	43.2	12.3	21.1	2.69
3. I find CBT useful for my examinations.	20.8	41.7	11.8	25.6	2.58
4. CBT has given me greater awareness of its use.	18.1	38.0	15.0	14.9	2.87
5. CBT gives me more confidence using computer for examination.	16	32.8	18.5	30.5	2.39
6. I am not confident to take CBT.	8	28.7	32.4	22.1	2.40
7. There are usually no distractions that constitute a nuisance when using CBT for examination.	21.9	42.3	19.1	16.7	2.69
8. The speed of using CBT for examination is satisfactory.	24.4	52.7	10.5	12.4	2.89
9. CBT gives me greater control over my academics.	18.1	40.5	21.5	19.9	2.57
10. CBT enhances my effectiveness in academics.	24.4	38.1	14.5	23.0	2.64
11. My use of CBT is not voluntary.	24.8	28.5	24.7	22.0	2.44
12. Although it might be helpful, using CBT is not compulsory for my course.	16.0	17.6	29.5	36.9	2.87
13. Using the CBT enables me to accomplish shopping more quickly than using paper based test.	34.9	29.5	11.0	24.7	2.75
14. CBT makes examination easier for me.	21.0	36.5	16.7	25.8	2.53
15. I am not comfortable to take CBT.	36.1	30.2	23.6	10.1	2.08

Note: Strongly agree and agree were merged to strongly agree

Strongly disagree and disagree were merged to strongly disagree.

The results in table 3 suggest that 66.7% of the students strongly agreed that using CBT for their test enabled them to accomplish

examination tasks more quickly while 33.3% strongly disagreed. A total of 66.6% of the respondents strongly agreed that CBT improves students' academic performance while 33.4% strongly disagreed. A total of 62.5% of the students strongly agreed that CBT is useful for examinations while 37.5% strongly disagreed. Moreover, 56.0% strongly agreed that students have greater awareness of the use of CBT while 44% strongly disagreed. A total of 48.8% of the students strongly agreed that CBT gives students more confidence using computer for examination while 5l.2% strongly disagreed; a total of 36.7% of the students strongly agreed that they were not confident to take CBT while 63.3% of the students strongly disagreed; and also 64.2% of the students strongly agreed that there were usually no distractions that constitute a nuisance when using CBT for examination as 35.8% strongly disagreed; and also,77.1% agreed that the speed of using CBT for examination is satisfactory enough while 22.9% strongly disagreed.

Above average 58.6% of the respondents strongly agreed that CBT gives greater control over their academics while 41.4% strongly disagreed. A total of 62.5% of the respondents strongly agreed that CBT enhanced students' effectiveness in academics while 37.5% strongly disagreed. A total of 53.3% of the respondents strongly agreed that the use of CBT is not voluntary while 46.7% strongly disagreed. A 33.6% of the respondents strongly agreed that although it might be helpful using CBT but not compulsory for their courses while 66.4% strongly disagreed. Moreover, 64% of the students strongly agreed that using CBT enables them to accomplish getting more questions quickly than using paper-based test while 36% strongly disagreed with the statement. A total of 57.5% strongly agreed that CBT makes examination easier among the students while 42.5% strongly disagreed. A total of 33.7% averred that they were not comfortable taking CBT while 66.3 proclaimed comfortability. These results suggested generally that students' perceived usefulness of computer-based test in Nigerian Universities is positive. The results show that computer-based test have been useful to students in Nigerian Universities. The average mean score of students' perceived usefulness of CBT from table 3 was 39.11 out of a maximum mean of 60, which translated to 65.2%. With this result, it is established that students' perceived usefulness of CBT is positive.

Research Question 2:
How do students perceive the ease of use of Computer-Based Test in Nigerian Universities?

The purpose of this question was to find out how students perceived the ease of use of computer-based test in Nigerian universities. The researcher used the responses to the items that measured students' perceived ease of use of computer-based test in Nigerian universities. The results are as shown in Table 4.

Table 4: Students' Perceived Ease of Use of Computer-Based Test in Nigerian Universities (N=1506)

Perceived Ease of Use of Computer-Based Test	Strongly agree %	Agree %	Strongly disagree %	Disagree %	Mean
1. CBT is easy to use.	27.0	42.2	10.0	20.8	2.75
2. CBT is user friendly.	22.4	46.3	8.8	22.4	2.69
3. Compared to paper- based test, CBT is easy for testing.	29.3	43.9	5.4	21.3	2.81
4. I find it easy to use CBT for test.	37.7	44.3	8.3	9.7	3.10
5. I believe that CBT questions are too cumbersome for me.	31.5	10.2	33.5	24.8	2.52
6. My using CBT require a lot of mental effort.	15.5	21.5	29.0	34.0	2.18
7. Using CBT is often frustrating.	20.0	46.6	12.5	20.8	2.66
8. CBT IS easy to use for my course of study.	18.8	36.6	21.4	23.2	2.51
9. It is very conducive to be examined with CBT.	19.5	41.2	15.2	24.0	2.56
10. CBT for my course did not work the way that it was supposed to work.	26.0	17.9	34.6	21.5	2.52
11. My interaction with CBT has been clear.	30.4	37.5	14.2	17.9	2.80
12. I rarely become confused when I use CBT.	32.0	37.5	12.9	17.5	2.84
13. I rarely make errors when using CBT.	27.8	32.2	18.4	21.4	2.67
14. CBT is not compatible with other test method I use	20.3	8.6	44.2	27.0	2.78
15 Technical problems like power outage, server problem with CBT are controllabl	21.3	23.0	25.6	30.1	2.36
1. My interaction with CBT has been understandable	24.1	44.4	14.3	17.2	2.75
17. My interaction with CBT has been lucrative	21.4	27.9	22.8	27.8	2.43

Note: Strongly agree and agree were merged to strongly agree
Strongly disagree and disagree were merged to strongly disagree.

The result in table 4 shows that 69.2% of the students strongly agreed that CBT was easy to use while 30.8% strongly disagreed. A total of 68.7% of the respondents strongly agreed that CBT was user friendly while 31.3% strongly disagreed. So also, 73.2% of the students strongly agreed that compared to paper-based test, CBT was easy for testing while 26.8% strongly disagreed. Moreover, 82.0% strongly agreed that they find it easy to use CBT for test while 18% strongly disagreed. A total of 41.7% of the students strongly agreed that CBT questions are too cumbersome for them while 58.3% strongly disagreed. A total of 37% of the students strongly agreed that using CBT required a lot of mental effort while 63% of the students strongly disagreed. More so, 66.6% of the students strongly agreed that using CBT was often frustrating while 33.4% strongly disagreed. Another 55.4% strongly agreed that CBT was easy to use for their course of study while 44.6% strongly disagreed.

Furthermore 60.7% of the respondents' strongly agreed that it was very conducive for them to be examined with CBT while 39.3% strongly disagreed. A total of 43.9% of the respondents strongly agreed that using CBT for their courses did not work the way that it was supposed to work in academics while 56.1% strongly disagreed. Moreover, 67.9% of the students strongly agreed that the interaction with CBT is clear while 32.1% strongly disagreed with the statement. A total of 69.5% of the respondents strongly agreed that they rarely become confused when they use CBT while 30.5% strongly disagreed. A total 39.9% of the respondents strongly disagreed that they rarely made errors when using CBT while 60.1% strongly agreed. CBT is not compatible with other test methods that are being used for test 28.9% of the students strongly agreed with the statement while 71.1% strongly disagreed. A total of 44.3% of the students strongly agreed that technical problems like power outage, server problem with CBT are controllable while 55.7% strongly disagreed.

These results suggest generally that students' perceived ease of use of computer-based test in Nigerian Universities were positive and that CBT can be better made compatible with other means of administering test. The results showed that computer-based test have been easy to use by students in Nigerian Universities. The average mean score of students' perceived ease of use of CBT from table 15 was 44.93 out of a maximum mean of 68, which translated to 66.1%. With this result, it is established that students' perceived ease of use of computer-based test was high.

Research Question 3:
How do students' perceive the credibility of Computer-Based Test in Nigerian Universities?

This research question was asked to find out students perceptions of the credibility of computer-based test in Nigerian universities. Thus the responses to the items on the questionnaire were analyzed to measure students' perception of the credibility of computer-based test in Nigerian universities. The results are as shown in Table 5.

Table 5: Students' Perceived Credibility of Computer-Based Test in Nigerian Universities (N=1506)

Perceived Credibility of Computer-Based Test (CBT)	Strongly agree%	Agree%	Strongly disagree %	Disagree %	Mean
1. CBT gives the opportunity for reusing questions.	23.3	34.2	17.9	24.6	2.56
2. CBT allows guessing.	24.3	37.7	14.2	23.8	2.63
3. Compared to paper-based test, CBT does not allow for test Plagiarism.	24.6	42.5	13.3	19.7	2.72
4. CBT reduces cheating.	31.8	37.8	15.8	14.6	2.87
5. CBT helps to identify questions which are either too 'difficult' or too 'easy'.	24.8	33.9	13.3	29.0	2.55
6. CBT helps to eliminate questions which are either too 'difficult' or too 'easy'.	14.5	28.8	27.5	29.3	2.28
7. CBT gives room for restarting questions when a problem occurs.	21.6	48.2	13.3	16.9	2.75
8. Repeated questions in CBT are not unfair.	24.8	24.0	37.7	13.7	2.40
9. CBT test items are randomized to prevent students working at adjacent computers from cheating.	23.8	42.3	16.7	17.2	2.73
10. CBT prevents planned sequencing of items.	22.9	35.9	16.5	21.0	2.68
11. CBT ensures good justification for my course.	26.6	35.9	16.5	21.0	2.68
12. CBT allows assessment of the appropriateness of the examination content.	30.o	45.1	12.5	12.4	2.93
13. CBT allows to be more closely monitored by academic staff.	25.8	31.1	18.1	24.8	2.58
14. CBT allows feedback during, or immediately after, a test.	30.8	42.2	12.9	14.1	2.90
15. CBT time limits for test are unfair.	30.4	22.0	28.8	21.9	2.45
16. CBT environments are conducive for examination.	30.4	14.7	12.0	15.9	2.87

Note: Strongly agree and agree were merged to strongly agree;
Strongly disagree and disagree were merged to strongly disagree.

The result in table 5 shows that 57.5% strongly agreed that CBT gives the opportunity for reusing question while 42.5% strongly disagreed. The data also show that 62% strongly agreed that CBT allows guessing, while 38% strongly disagreed. A total of 67.1% strongly agreed that computer-based test reduces plagiarism while 32.9% strongly disagreed. On whether or not on CBT reduce cheating, 69.8% strongly agreed while 30.2% strongly disagreed. A total of 58.7% of the respondents strongly agreed on the statement CBT help to identify questions which were either too 'difficult' or to o 'easy', while 41.3% strongly disagreed. On whether CBT helps to eliminate questions which are either too 'difficult' or too 'easy', 43.3% strongly agreed while 56.7% strongly disagreed. The item CBT gives room for restarting questions when a problem occurs has 69.8% to strongly agree and 30.2% to strongly disagree.

Furthermore, 48.8% of the students indicated that repeated questions on CBT are not unfair while 51.2% strongly disagreed. CBT test items are randomized to prevent students working at adjacent computers from cheating has 66.l % who strongly agree and 33.9% strongly disagree. On whether CBT preventing planned sequencing of items, 63.1% strongly agreed while 36.9% strongly disagreed. A total of 72.1% strongly agreed that CBT environments were conducive for examination while 27.9% strongly disagreed.

These imply that computer-based test is credible for students in Nigerian universities. The average mean score of students' perceived credibility of CBT on table 5 was 42.85 out of a total mean of 64, which translated to 67%. With this result, it is established that students' perceived credibility of computer-based test is positive.

Discussion of Findings

The result of this study revealed that students perceived computer-based test as being useful. This is consistent with Zakrewski (1996) who reported that computer-based test is useful for assessment as it saves time of the students and covers a large group of the students at a time. Aojula, Barber, Cullen and Andrews (2006) also reported that CBT is useful for students as it increases their computer knowledge. Similarly, Alderson (2000) reported that students perceived CBT to be useful for assessment. Parshall, Spray, Kalohn, and Davey, (2002) reported that students' degree of computer literacy increases the usefulness of computer-based test with greater efficiency and possibility to take the test at any time. Jimoh et. al. (2013) reported that students found CBT useful as they prefer CBT systems better in writing their exams than the traditional paper and pen testing. This confirms that computer-based test in Nigerian universities is useful for assessment in the university.

However, the report by Lynch and Whitley (2000), Cotugna and Vickery (2001) contradicts the outcome of this study. The researchers reported in their studies that CBT is not useful for students as felt threatened. This is reinforced by other studies who also reported (Bocij and Greasley 1999; Gilmer and Murley, 2003) that students perceived CBT not to be useful.

The result reveals that students' perceived computer-based test to be easy to use. The finding agreed with Brown, Race and Bull (1999) who reported that the use of computer-based test is easy as the technical problems like power outage, server problem with CBT are controllable and the questions are not too cumbersome. This finding is in consonance with other studies including Fluck, Pullen and Harper (2009) who revealed that CBT is easy to use for students as the features of computer-based test makes it go beyond the conventional practices and facilities, to record a broader repertoire of cognitive skills and knowledge. However the report by Frankola (2000), Bridgeman and Cline (2000) contradict the report of this study. The researchers reported that despite the increase in the use of CBT, students do not find it easy to use.

Conclusion

The study discovered that the usefulness, ease of use and credibility are important in the use of computer-based test in Nigerian universities as perceived usefulness, easy to use and credibility depend on one other and each plays an important role in the use of computer-based test.

Recommendation

Based on the findings and conclusions, recommendations were made that Nigerian universities should improve the efficiency of computer-based test to increase its credibility in testing students. Since students perceived CBT as being useful they should be further encouraged and if possible mandated in all Nigerian universities.

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