



## ATTITUDE AND PERCEPTIONS OF LIBRARY AND INFORMATION SCIENCE UNDERGRADUATE STUDENTS TOWARDS COMPUTER-BASED TEST IN NIGERIAN UNIVERSITIES

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### Abstract

The adoption of Information and Communication Technology (ICTs) in education has initiated modern advantages for changes and innovation in educational assessment resulting in the adoption of Computer-Based Test (CBT). Attitude and perception towards CBT are inevitable variables affecting the acceptance of CBT examinations. This study investigated attitude and perception of Library and Information Science undergraduate students towards (CBT) examination in Nigerian Universities. The objectives of the study were to: (i) examine the attitude of Library and Information Science students towards CBT examination in Nigerian universities; (ii) determine Library and Information Science student's perception towards the ease of use of CBT examination in Nigerian universities; (iii) determine Library and Information Science student's perception on the usefulness of CBT examination; (iv) identify the constraints faced by Library and Information Science students during CBT examinations; and (v) ascertain the difference between male and female Library and Information Science student's attitude and perception towards CBT examination. The study adopted descriptive survey research design. Population of the study consist of Library and Information Science undergraduate students in Nigerian universities. A sample of 378 was purposively drawn from four selected universities in North-Central, Nigeria. Data was collected with the use of questionnaire and analysed using descriptive and inferential statistics. Findings of the study were: (i) Library and Information Science students in Nigerian universities had positive attitude towards CBT examination, (ii) Library and Information Science students perception on the ease of use of CBT was positive, (iii) Library and Information Science students perceived CBT examination to be useful, (iv) there were no constraints against CBT examination, and (v) there was a significant difference between the male and female Library and Information Science students attitude and perception towards CBT examination. The study recommended the expansion of CBT centres and provision of more facilities in Nigerian universities.

**Keywords:** Attitude, computer-based test, library and information science students, Nigerian universities, perception, paper-based test.



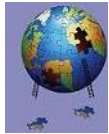
## INTRODUCTION

The world has become one community as a result of the utilization of technology and the changes in information and communication technologies (ICTs) have made huge impacts in education globally. In other words, ICTs are widely employed devices which have notably influenced the daily activities of its users by decreasing tedious practices and bridging distances barrier. ICTs has been seen as essential tool for the society. Choi and Byun (2017) asserted that the fast innovation of ICTs and its introduction in educational system has changed the world from information technology age to knowledge age which results in the rise of technologies in various ways. The adoption and use of ICTs in education has initiated modern advantages for changes and innovation in educational assessment resulting in the adoption of Computer-Based Test (CBT).

Peter, Bill and David (2004) revealed that the use of Computer-Based Test (CBT) can be traced back to 1960's when it was first introduced to test knowledge and problem solving skills. Today, CBT has change into multi-platforms from mono-platform for test-takers to input their answers and receive feedbacks via computer. This platform creates great surface where test-takers manually fill their answers, prescribe marking and the response is marked using computer and it is usually in multiple choice questions (MCQ) and also CBT test-takers filled responses are fed into computer optical mark reader which reads the form, scores and report test reliability (Kuzmina, 2010). The adoption of CBT was necessitated by the issue with paper-based test (PBT). Paper-based test (PPT) was found to have many problems in its usage such as: expenses in conducting examination on the part of the examination bodies, subjective scoring and plausible manipulation of results, late release of results and missing grades (Alabi, Issa & Oyekunle, 2012).

As a result of the technology knowledge know-how and credibility in Africa, some Nigerian universities have adopted and adapted to the use of ICTs through its incorporation into their daily administrative processes by creating and using 'management information system' (Mejabi & Raji, 2010). The incorporation of ICTs in education led to the use of computer-based test in place of paper-based test for conducting examinations. CBT measures complex form of knowledge and reasoning which is not possible via conventional methods; dwindling paper consumption which evasively diminishes greenhouse gases and energy consumption (Bodmann & Robinson, 2004, DeRosa, 2007). The use of CBT makes school examination management effective, efficient and easier as it aids both students and lecturers in knowledge, learning processes which improves academic performances and brings about vital changes from conventional mode of educational system to globalized educational system. According to Peter, Bills and David (2004), CBT embodies a vital qualitative shift from conventional mode of administering examination which is PPT, due to its innovative abilities which gives it lot of advantages over the use of traditional method. In the sphere of educational assessment, as changes are made in assessment methodologies so does the same changes reflect on the practical aspects of academic methods (OECD, 2010). In the light of these changes, student's attitude, perception, and their acceptances of the adoption of CBT into academic system must be considered as these factors determines their level of performances with the use of CBT examination.

Computer-based test helps in time saving and reduction of manpower efforts, fewer response interpretation errors (reading and decoding), improved security due to electronic transmission and encryption (Hochlehnert, Brass, Moeltner & Juenger, 2011). Despite the numerous benefits that are derivable from the use of CBT examination, researchers have reported that there are constraints to its use such as negative effects of computer anxiety, long transition time for changing from traditional assessment to CBT due to the efforts in adapting to routines and technology, expensive in buying computer to serve



the whole population of the test-takers, technical issues during examination (Hofer, 2007; Pinner, 2011). It has also been reported by studies that students have formed negative attitude and perception towards computer-based examinations.

Attitude is not an inborn instinct phenomenon but a person's inner psychic state that influences their behaviour and are formed in the process of experience (Saparniene, Merkys and Saparnis, 2005). Attitude is the character of an individual to respond differently towards a particular stimuli (customs or institutional practices) either favorably, neutrally or unfavorably. The attitude of students serves as irreplaceable variables because they are known to enhance students learning process, if they are positive they will have some potential impact on students' academic performance on different test modes (Claria & Wallace, 2002; Leeson, 2006; Paek, 2005). More so, improvement and implementation of CBT can be properly redesigned once the use of CBT in education has been carefully perceived and accepted by students (Bull & McKenna, 2004). Perception towards CBT is also an inevitable variable which determines how students view the usefulness and ease of use of the system and their level of academic performances with CBT as mode of assessment of student's which in educational settings is one of the sole objectives of the organization. In regards to this, knowing the attitudes and perception of undergraduate towards this method of examination is significant because students are now prone to the use of technology, which is fast gaining acknowledgement throughout the whole world.

The objectives of this study are to:

- i. examine the attitude of Library and Information Science students towards CBT examination in Nigerian Universities;
- ii. determine Library and Information Science student's perception towards the ease of use of CBT examination in Nigerian universities;
- iii. determine Library and Information Science student's perception on the usefulness of CBT examination;
- iv. identify the constraints faced by Library and Information Science students during CBT examinations in Nigerian universities; and
- v. ascertain difference between male and female Library and Information Science students' attitude and perception towards CBT examination.

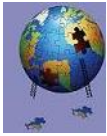
## **Hypotheses**

Ho<sub>1</sub>: There is no significant difference between male and female Library and Information Science students' attitude towards CBT examination.

Ho<sub>2</sub>: There is no significant difference between male and female Library and Information Science students' perception towards the ease of the use of CBT examination.

## **REVIEW OF RELATED LITERATURE**

Education is the driving force of economic and social development of any society. It is essential to identify ways to make education of good quality, accessible, and affordable to all, using the latest technology available to propel the national educational system to greater level with cutting edge technologies (Anene, 2016). McGorry (2002) argued that ICTs has the potential to remove the barriers that are causing the problems of low rate of education in any country. The barriers faced by educational system in the country according to McGorry (2002) are problem of how to test and assess the performance of students due to the large population, printing of lot of answer sheets and question papers, preparation for available halls or venues to hold examination, scripts marking which sometimes leads to missing scripts. As a result of ICTs inclusion in education such problems are curbed.



According to Uysal and Kuzu (2009), the fast advancement of ICTs in teaching and learning has shifted the paradigm from PBT to CBT examination to minimize examination malpractices and grade students automatically. Computer- Based Examination is a product of the introduction of ICTs incorporated into educational settings for assessment purpose. Bennett (2015), stressed that CBT represents a modern way of answering examination questions, replacing the written pen and paper format. The questions are delivered in multiple choice format (MCQ), and normally consist of four set of options given to the test-takers in which only one answer out of the four serves as the correct answer to question asked during CBT examination (Ajinaji, 2017).

Daramola (2018) defined CBT as test assessment, evaluation that are administered by computer in a consecrated /or in a stand-alone network, or by other technological devices linked to the internet/worldwide web (www), in which most comes in a MCQ. Davey (2011) argued that CBT leads to increased convenience because of its operational convenience for students, test administrators, and those who use test scores. These conveniences as identified by Daramola, (2018) includes; self-proctoring, immediate scoring, integrated data management system and preference. Inconsistencies in PPT environment can mean that test results are not reflective of the true ability of candidates. For example, the distractions that can be present when taking a test in a large conference hall. Having dedicated CBT test centers with controlled environments ensures “greater consistency” in the test environment leading to more reliable results (Industry Report, 2012; Ejim, 2017).

According to Ejim (2017), CBT opens up an examination to its full potential as a valid, reliable and efficient assessment tool. The ability to embed high-quality media in CBT means that in many instances, knowledge and skills can be tested in more authentic ways, even the method by which CBT items are delivered to candidates can greatly improve an examination, the items (questions) don't have to be innovated. Lecturers and students are both receiving the benefits of the use of CBT as lecturers can incorporate hints into test questions and as well monitor the progression of students through frequent use of assessment. Students can monitor their own proficiency, revise and rehearse at their own pace and they can also receive detailed and specific feedback during and immediately after a test. More so, lecturers can assign different learning activities to students based on their test results and can also receive/provide feedback for evaluation of modules/courses/programs/ greater storage efficiency, thousands of answer scripts can be stored on a portable hard disk of a server compared to the physical space required for paper scripts; and saves time and manpower for test administration, and merits of lower long-term costs (Simin & Heidari, 2013).

Attitude is an expression of favour or disfavour towards a person, place, thing or event which could be positive or negative when rating. Koshima and Toroujeni (2017) reported that attitude towards computerized test plays a crucial role in implementing CBT successfully. According to them, attitude towards computer can be influenced by some contextual factors such as age, gender and socio-economics status. Social environment, computer experience, gender differences and computer self- efficacy. Teriz and Economides (2011), in their study stated that attitude of males and females towards CBT's are under the influence of “social environment”, the boys focus on its usefulness while the girls stress the ease of use. However, controlling for computer experience males and females had similar interest towards computer. Recently it has been suggested that the contemporary male and female students alike are more pragmatic so that there may not be differences between genders and generalizations in terms of computers. Domino and Domino (2006) stated that if students do not have confidence in a test, it will affect their levels of engagement and cooperation. As a result of this lack of confidence student's performance with the use will tend to be very poor.



Computer experience is one of the factors that determines students attitude towards CBT. Computer experience could be likened to students having access to participating in computer-related work or courses, playing games with computers, having computer at home. More so, Karadeniz (2009) observed that students had positive attitude towards CBT and assessment due to ease of use, comprehensive and instant feedback. Tella and Bashorun (2012) examined the attitude of students towards CBT at the University of Ilorin, sample of 2209 undergraduates were selected from seven out of ten faculties and a data was gathered through CBT attitudinal survey (CBTAS) alongside a focus group discussion. The findings demonstrated that, generally, respondents have positive attitudes towards CBT, more than average of the respondents prefer CBT to PPT.

Perception is an individual's arrangement, identification and analysis of sensory information in order to represent and apprehend present information or environment. In other words, perception is the process of attaining awareness or understanding of information by selection, organization, and interpretation of stimuli into a meaningful and coherent picture of how one views the world and things around them. According to Arbaugh (2000), essential factors that influence students' perception on CBT are perceived usefulness, perceived ease of use, flexibility of e-learning, and gender. In the same view Piccoli, Ahmad and Ives (2001) were of the opinion that 'maturity, motivation, technology comfort, technology attitudes, computer anxiety, and epistemic beliefs, technology control, teaching styles, self-efficacy, availability, objectivist and constructivist, quality, reliability, face validity, sequence, control, factual knowledge, procedural knowledge, conceptual knowledge, timing, frequency and quality' are the factors that influence users perception towards CBT examination. Russell, Hoffman and Higgins (2003) added that font text size, the computer screen and graphics, all have a vital role in students' perception.

According to Oladimeji, Akinoso, Omotunde and Annene (2017) study on student's perception of CBT in Nigeria. The result suggested that student's perceived ease of use of CBT in Nigeria universities were positive and that CBT can be better made compatible with other means of administering test. It further revealed that it is easy to use by students in the universities. The average mean score of student's perceived ease of use of CBT was 44.93% out of a maximum of 66, which translated to 66.1%. This means there was a high level of satisfaction with the ease use of CBT examination. Fluck, Pullen and Harper (2009), showed that CBT is easy to use for students as the features of CBT makes it go beyond the conventional practices and facilities, to record a broader repertoire of cognitive skills and knowledge which shows its effectiveness.

Alsadoon (2017) investigated student's perception of E-assessment at Saudi Electronic University and the study concluded that students had positive perceptions of e-assessment and valued its features such as immediate feedback and unbiased grading. The study further revealed that the use of e-assessment in the above university was encouraging to students and school management. Similarly, Adegun, Akinola, Adepoju, and Kolajo, (2018) examined Ladoke Akintola University of Technology, Ogbomosho student's perception on CBT examination in the use of "Library 101" course. Questionnaire was as instrument for data collection and the data collected covered 5,000 population of hundred level (100L) undergraduate students. 10% of respondents were randomly selected which formed a total of 500 respondents. The result showed that a significant percentage of the respondents were either doing good or fairly good academically. 16% claimed of very good in computer familiarity, 23% claimed good while 21% were fairly good. 18.75% and 6.25% of both gender answered that they had high computer familiarity, 16.25% and 8.75% agreed on very high of computer familiarity, 15% and 10% graded averagely while 13.75% 1.25% admitted low computer familiarity.





Gender is personal conception of oneself as a female or male. According to Anene (2016), gender is a natural link to a social attribute and opportunity associated with being a masculine and feminine and a mutual relationship of mankind. In line with this study, gender differences entails knowing the differences in attitude and perception of both masculine and feminine towards CBT examination. Adegbija, George and Bolac (2013) investigated students view on E-assessment at the University of Ilorin. The study found a significant difference between the view of males and female students on E-assessment at the University of Ilorin with male perceiving it more positively than their female counterparts. Furthermore, Olufemi and Osuakuade (2014) revealed a significant difference in the computer knowledge of male and female candidates with the male been found to be more knowledgeable in computer than their female counterparts because the male candidates used computers more often than female candidates, while the female candidates were less interested and less confident in computer than male candidates.

Bennett (2015) stated that actualizing computer exams requires a protected testing condition, one that keeps understudies from looking for answers by checking their computer hard drives, texting or messaging companions, or perusing the web. These issues can be categorized under technical, financial and user’s issues. Hardware and software must be carefully monitored to avoid failure such as freezing and crashing during examination and time can be wasted when computers have to be restarted or changed. Patricia, Akanwa, and Nobert, (2015) stated that the challenges encountered by students when using CBT include: insufficient supply of computer, candidate’s incompetence in the use of computers and fluctuation in network service, insufficient time allocated for the exam, students feel nervous, insufficient computer set to serve the large populations, and many of the questions are too cheap, some CBT results get mixed up due to improper data base management which at times leads to mass failure.

Adewole, et al. (2018), observed some problems in the use of CBT examination, such as lack of computer familiarity, student’s common attitude towards CBT examination and other peculiar problems. Tella and Bashorun (2012) identified some issues as reported by students to be shortage of computer, lack of skills on the part of the students, and loss of data in the process of writing CBT examination, slow network and hazard of reading on the screen were also identified.

## RESEARCH METHODOLOGY

This study adopted descriptive survey design. According to Aina (2004), descriptive survey design is used to gather opinion of people on a particular issue or problem. The population of the study comprised Library and Information Science undergraduate students in Nigeria. A purposive sampling technique was adopted in sampling 378 Library and Information Science undergraduate students from four selected universities in North-Central, Nigeria. The selected universities included Kwara State University, Malete; University of Ilorin, Ilorin; Federal University of Technology, Minna; and University of Abuja. Questionnaire was the instrument used for data collection. The instrument was validated by five experts and pre-tested. Data were analysed using descriptive and inferential statistics.

## DATA ANALYSIS AND DISCUSSION

**Table 1.** Respondents by Gender

Gender	Frequency	Percent
Male	184	48.7
Female	194	51.3
Total	378	100.0



Table 1 reveals that majority of the respondents 194 (51.3%) were female.

### Analyses and Interpretation of Research Questions and Hypotheses

**Research Question 1:** What are the attitudes of Library and Information Science students towards CBT examination in Nigerian universities?

**Table 2.** Attitude towards CBT Examination

S / N	Attitude	SA	A	SD	D	Remark
		F (%)	F (%)	F (%)	F (%)	
1	I don't have the fear of failing with the use of CBT for exam	200(52.9%)	76(20.1%)	50(13.2%)	52(13.8%)	Agreed
2	I don't lack confidence during CBT examination	200(52.9%)	107(28.3%)	40(10.6%)	31(8.2%)	Agreed
3	The use of CBT doesn't make me nervous	143(37.8%)	100(26.5%)	100(26.5%)	35(9.3%)	Agreed
4	The more I use CBT for my exams, the more I get used to it	190(50.3%)	120(31.7%)	42(11.1%)	26(6.9%)	Agreed
5	I am used to CBT because I use computer for other daily routines (games, assignment and chats)	186(49.2%)	62(16.4%)	76(20.1%)	54(14.3%)	Agreed
6	I am familiar with the use of CBT for exam	240(63.5%)	71(18.8%)	31(8.2%)	36(9.5%)	Agreed
7	I prefer CBT mode of exam to PBT for my courses	98(25.9%)	90(23.8%)	100(26.5%)	90(23.8%)	Disagreed
8	I don't see CBT as a threat to my proficiency	105(27.8%)	160(42.3%)	45(11.9%)	68(18.0%)	Agreed

Table 2 shows the frequency and percentage responses on the attitude of students towards CBT exam. The table reveals that the students have positive attitude towards CBT examination. Their attitude include: I don't have fear of failing with the use of CBT in exam 276 (73%), I don't lack confidence during CBT examination 307 (81%), the use of CBT doesn't make me nervous 243 (64.3%), the more I use CBT for my exams, the more I get used to it 310 (82%), I am used to CBT because I use computer for other daily routines (games, assignment and chats) 248 (65.6%), I am familiar with the use of CBT for exam 311 (82.3%) and I don't see CBT as a threat to my proficiency 265 (70.1%). However, the results also reveals that majority of the respondents 190 (50.3%) still prefer paper-based exam to CBT mode. This finding is in agreement with the finding of Karadeniz (2009) which reported that students had positive attitude towards CBT and assessment due to ease of use, comprehensive and instant feedback.

**Research Question 2:** What are Library and Information Science student's perceptions towards the ease of use of CBT examination in Nigerian universities?

**Table 3.** Perception on the ease of use of CBT examination

S/N	Perceived Ease of use	SA	A	SD	D	Remark
		F (%)	F (%)	F (%)	F (%)	
1	I find CBT easy to use for testing	198(52.4%)	100(26.5%)	48(12.7%)	32(8.5%)	Agreed
2	CBT questions are not too cumbersome	189(50.0%)	38(10.1%)	75(19.8%)	76(20.1%)	Agreed
3	CBT is users friendly due to ease of navigation	200(52.9%)	62(16.4%)	97(25.7%)	19(5.0%)	Agreed
4	I rarely become confused when I use CBT for exams	139(36.8%)	80(21.2%)	98(25.9%)	61(16.1%)	Agreed
5	CBT is conducted in a conducive environment	189(50.0%)	96(25.4%)	58(15.3%)	35(9.3%)	Agreed

Table 3 shows the frequency and percentage responses on the perception of ease of use of CBT examination. The table reveals that students have positive perception towards the ease of use of CBT examination as they find testing with CBT easy 298 (78.9%), CBT question were not cumbersome 227 (61%), it is users friendly 262 (69.3%), they rarely become confused when they use CBT for exam 219 (58%) and as a result of the conduciveness of the environment in which the exam is held 285 (74%). This finding is in agreement with that of Oladimeji, Akinoso, Omotunde and Annenne (2017) which revealed that student's perceived ease of use of CBT in Nigeria universities were positive and that CBT can be better made compatible with other means of administering test. It also conforms with that of Fluck, Pullen and Harper (2009) which revealed that CBT is easy to use for student's as the features of CBT makes it go beyond the conventional practices and facilities, to record a broader repertoire of cognitive skills and knowledge which shows its effectiveness.

**Research Question 3:** What are Library and Information Science student's perceptions on the usefulness of CBT examination?

**Table 4.** Perception on the usefulness of CBT examination

S/N	Usefulness	SA	A	SD	D	Remark
		F (%)	F (%)	F (%)	F (%)	
1	CBT improves my academic performances	101(26.7%)	140(37.0%)	48(12.7%)	89(23.5%)	Agreed
2	CBT makes exam easier for me	158(41.8%)	100(26.5%)	80(21.2%)	40(10.6%)	Agreed
3	CBT increases my mental efforts	200(52.9%)	58(15.3%)	90(23.8%)	30(7.9%)	Agreed
4	CBT gives unbiased grades	137(36.2%)	78(20.6%)	98(25.9%)	65(17.2%)	Agreed
5	Results don't get missing with the use of CBT for exam	143(37.8%)	85(22.5%)	85(22.5%)	65(17.2%)	Agreed





Table 4 shows the frequency and percentages responses on the perception of the usefulness of CBT exam. The table reveals that majority of the respondents indicated positive perception on the usefulness of CBT examination as majority of the respondents agreed that CBT improves their academic performances 242 (63.7%), makes exam easier for them 258 (68.3%), increases their mental efforts 258 (68.2%), gives unbiased grades 215 56.8%) and results don't get missing with the use of CBT examination 228 (60.3%). This finding is in agreement with that of Parshall, Spray, Kalohn, and Davey, (2002) which reported that student's degree of computer literacy increases the usefulness of CBT with great efficiency and possibility to take the test any time. The finding is also in conformity with that of Aojula, Barber, Cullen and Andrews (2006) which reported that CBT is useful for students as it increases their computer knowledge. This confirms the usefulness of CBT as a method of student's assessment.

**Research Question 4:** What are the constraints faced by Library and Information Science students during CBT examination in Nigerian universities?

**Table 5.** Constraints faced by students during CBT examination

S/N	Constraints	SA F (%)	A F (%)	SD F (%)	D F (%)	Remark
1	I find it difficulty logging into CBT system	100(26.5%)	27(7.1%)	153(40.5%)	98(25.9%)	Disagreed
2	I always encounter problems with submitting of my answers	53(14.0%)	40(10.6%)	200(52.9%)	85(22.5%)	Disagreed
3	I find it difficult to review my previous answers	50(13.2%)	6(1.6%)	202(53.4%)	120(31.7%)	Disagreed
4	I get stressed during and after the use of CBT exam	164(43.4%)	7(1.9%)	112(29.6%)	95(25.1%)	Disagreed
5	I am always unable to finish my CBT exam before the assigned time to CBT elapses	99(26.2%)	69(18.3%)	115(30.4%)	95(25.1%)	Disagreed

Table 5 shows the frequency and percentage responses on the constraints faced by students during CBT examination. The table revealed that the respondents disagreed to items 1, 2, 3, 4, and 5 with percentages ranges from 54.7% to 85.1%. The result of the analysis implies that majority of the respondents disagreed to the statements as they do not find it difficult logging into the system, they don't encounter problem with submission of answers, reviewing of previous answers, they don't get stressed during and after CBT exam and they always finish before the assigned time for CBT exam elapses which makes their use of CBT for examination very easy, fast and enjoyable. This finding contradicts with the finding of Tella and Bashorun (2012) who identified some constraints as reported by students to be shortage of computers, lack of skills on the part of the students, and loss of data in the process of writing CBT examination, slow network and hazard of reading on the screen were also identified.

### Test of Hypotheses

Two null hypotheses were formulated and tested in this study. The null hypotheses were tested at 0.05 level of significance. The summary of the test of hypotheses are presented in Table 6 and 7.

**H<sub>01</sub>:** There is no significant difference between male and female Library and Information Science student's attitude towards CBT examination in Nigerian Universities.

**Table 6.** Summary of t-test of the difference between the mean ratings of male and female student's attitude towards CBT examination

Group	N	Mean	SD	t-cal	df	p-value	Decision
Males	184	2.11	0.76	30.47	376	0.00	S
Females	194	3.83	0.18				

P&lt;0.05

Table 6 reveals that there are 184 males and 194 respondents. The male and female student's responses showed that there is high positive rating on attitude towards CBT exam. ( $\bar{X} = 2.11$ ;  $SD = 0.76$ ) and ( $\bar{X} = 3.83$ ;  $SD = 0.18$ ). The table reveals a significant difference between the mean responses of male and females students' attitude towards CBT exam ( $t_{376} = 30.47$ ,  $P < 0.05$ ). Therefore, the null hypothesis that states that there is no significant difference between male and female Library and Information Science student's attitude towards CBT exam in Nigerian universities was rejected. This implied that male and female student's differ in their responses regarding their attitude towards CBT exam. Their responses showed that female students rated attitude towards CBT exam higher than the male students did (mean difference = 1.72).

**H<sub>02</sub>:** There is no significant difference between male and female Library and Information Science students' perception towards the ease of the use of CBT examination

**Table 7.** Summary of t-test of the difference between the mean ratings of male and female student's perception on the ease of use of CBT examination

Group	N	Mean	SD	t-cal	df	p-value	Decision
Males	184	1.95	0.78	34.87	376	0.000	S
Females	194	3.93	0.12				

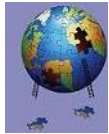
P&lt;0.05

Table 7 reveals that there are 184 males and 194 respondents. The male and female student's responses shows that there is high positive rating on the ease of use of CBT exam. ( $\bar{X} = 1.95$ ;  $SD = 0.78$ ) and ( $\bar{X} = 3.93$ ;  $SD = 0.12$ ). The table reveals that there was significant difference between the mean responses of male and females Library and Information Science students towards the perception of ease of use of CBT exam ( $t_{376} = 34.87$ ,  $P < 0.05$ ). The null hypothesis that stated that there is no significant difference between the mean ratings of males and female Library and Information Science student's perception on the ease of use of CBT exam was rejected. This indicates that male and female students differ in their responses regarding the ease of use of CBT exam. Their responses shows that female students rated perception on ease of use of CBT exam higher than the male students did (mean difference = 1.98).

### SUMMARY of FINDINGS

The findings of the study were:

- i. Students had positive attitude towards CBT examination as a result of their lack of fear of failing with the use of CBT examination, confidence during the exam, the more they use CBT for exam the more they get used to it, the use of computer for other routines such as gaming, chatting, working and among others which familiarizes them with CBT mode of testing and thereby reduces nervousness and anxiety in them and as a result they don't see CBT as a threat to their



- proficiency. However, regardless of their positive attitude towards CBT the study showed that majority still prefer PPT mode to CBT mode.
- ii. Students had positive perception on the ease of use of CBT examination because of its ease of use, lack of cumbersome questions, user friendliness of the system, conducive environment for testing and they rarely become confused when using CBT mode of testing, all of which makes CBT easy for use by the students.
  - iii. Students perceived CBT to be useful to them because the use of CBT increases their academic performances, makes exam easier for them, increases their mental efforts, gives unbiased grades as the computer does the grading and results do not get missing with the use of CBT for exams.
  - iv. There are not constraints against the use of CBT examination in the universities under study. Users find it easy log-in to CBT system, submission of answers, reviewing of previous answers, and absence of stress before and after examination with proper assignment of time to the exam which makes it enjoyable, fun and saves time for both the students and the administrators.
  - v. It was observed that there is a significant differences between male and female students' attitudes towards CBT examination with the female holding higher and positive attitude than their male counterparts.
  - vi. There was a significant differences between the male and the female perception towards the ease of use of CBT examination as the females held more positively on its ease of use of CBT than the male students

## Conclusion

The study concluded that CBT examination in Nigerian universities, is a success story, since the system is not confronted with challenges and students have developed positive attitude towards CBT examination.

## Recommendations

Based on the findings of this study, the following recommendations were made to improve the CBT examination in Nigerian universities.

- i. More and modern CBT facilities should be provided and more centres should be created to ensure that large numbers of the students are accommodated in a day and facilitate effective usage of CBT examination.
- ii. Students should be properly sensitized on the advantages of CBT examination over traditional method of examination in order to ensure wide acceptances of CBT by students.
- iii. Students should be exposed to practical computer assignments in order to familiarize them with the use of computers and develop their computer literacy skills.

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