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PROSPECTIVE TERTIARY INSTITUTION STUDENTS' PERSONAL - SOCIAL VARIABLES AND THEIR ATTITUDE TO COMPUTER BASED TESTING (CBT) IN CALABAR METROPOLIS, CROSS RIVER STATE.

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Abstract

The study was aimed at examining prospective tertiary institution students personal social variables and their attitude to computer based testing (CBT) in Calabar Metropolis, Cross River State, Nigeria. The study adopted the factorial design with purposive sampling technique. A total of 1200 UTME students was used. A validated questionnaire was used for data collection with Cronbach alpha used for estimating the reliability of the instrument which coefficient was 0.87. Data were collected by the researcher and were analyzed using two -way, One -way analysis of variance (ANOVA) and the independent t-test for data analysis. The result of the study showed that students' level of computer knowledge, school type influence their attitude to CBT but there was no gender influence. It was recommended that students in post primary education should be exposed to early basic computer education, government should ensure that public schools are provided with computer facilities and teachers should be employed in both public and private schools that will facilitate the enhancement of student's knowledge of basic computer skills.

Introduction

The emergence of Information and Communication Technology (ICT) has affected virtually all nooks and crannies of the world. It is a technological development that has turned the world into a global village where communication and human social interaction is widened beyond ethnic boundaries. Udofia, Chigbo&Oduh(2012) noted that Information and Communication Technology have helped in facilitating communication , social interaction , business transactions as well as strong and effective security especially in the developed societies. They still noted that ICT is a widely used technology which has become a common place in the world of educational technology. Its presence in the educational system had long been expressed in teaching and lesson process, administrative purposes among others. One of the areas that ICT has permeated strongly currently is in the assessment procedures of external examination bodies and most tertiary institutions in Nigeria. Although, this have been a development that was widely utilized in most countries, it is maiden in Nigeria.

Examination like West Africa Examination Council (WAEC), National Examination Council (NECO) and Unified Tertiary Matriculation Examination (UTME) were conducted using paper and pencil test (PPT). This procedure of assessment was shrouded with a lot of inadequacies which include all forms of examination malpractices like, commercialization of questions papers,

impersonation, and bribery of supervisors for illegal activities inside the examination hall, leakages of examination paper, use of electronic gadgets among others. Computer Based Testing (CBT) came in as a substitute that can aid in reducing if not eradicating most of these abnormalities associated with Paper and Pencil Test (PPT). Computer Based Testing (CBT) is an electronic means of administering examinations. According to Joshua; Joshua & Ikiroma(2012) noted that CBT is a means whereby tests are administered, scored and recorded electronically. The rationale behind this development is largely due to the advantages CBT possesses over PPT. One such is the reduction in number of impersonation, reduced logistic expenditure, achievement of items characteristics assumptions, improved test security, easy and quick presentation of scores and adequate supervision of students. Riku&Laurif,(2001) ; Ricketts &Wilks, (2001); noted that one of the advantages of CBT to PPT include" faster response rate, consistency and reliability of the test score of the student.

CBT had its emergence in 2013 when it was partially introduced by in the Unified Tertiary Matriculation Examination (UTME) in Nigeria . This innovation was welcomed by most measurement experts due to the issues surrounding PPT as identified above. Yet, it was not without challenges. These challenges were administrative, infrastructural, and psychological as well as socio cultural. Nigeria as a developing nation has a mixed population of literates and illiterates citizens, urban and rural dwellers, computer literates and illiterates and the characteristics of the aforementioned determine his/her attitude and perception to an innovation.

Attitude as a factor could be viewed as the totality of a student's disposition towards an object, institution or event. Attitude could be acquired or formed from member of the family, teacher and peer group. The learner acquires from the environment disposition to form attitude towards learning which could positively or negatively affect his performance (George,2011).Secondary school leavers do not all possess similar characteristics as a result of the variant schools they graduate from. Most of these students have not seen a computer neither sat on a computer at all till graduation especially those schools in the rural areas. In most schools in the urban settings, most of the schools that have computers do not even allow students to carry out practical. This may leave the students anxious and worried when preparing for JAMB especially as it involves the use of computers. Many studies have been carried out since CBT introduction by UTME and most studies are centered on readiness and acceptability of CBT by stakeholders (Joshua, et al, 2012); Prospects, challenges and strategies in using CBT method in conducting examination in Nigeria (Abubakar; 2014; Adebayor; 2014) and Sanni& Mohammed (2015) carried out a study on assessment of students perception of computer based testing. No attempt have been made to examine students variables-gender, computer skills, perception, level of awareness, level of knowledge and their attitude to CBT in this area and it is on this backdrop that this research work was carried out.

Statement of the problem

Computer Based Testing (CBT) is an innovative technique that is used in the assessment of students in major examinations in Nigeria. It was introduced due to the fraudulent tendencies identified to have associated with Paper and Pencil Test (PPT). It was introduced to ensure that scores obtained by an individual is approximately the true ability of the learner in order for reliable decision to be made on the learner. It was also introduced to save time in release of students result. Unfortunately, the individuals exposed to this computer testing are a mixed population with different computer knowledge, skills, perception, sex which may affected their attitude to this testing procedure. Few studies carried out on CBT have not actually addressed issues associated with students variables and their attitude to CBT since it is what have come to stay with us. It is on this backdrop that the researchers are spurred up to conduct a study on personal students' variables-gender, computer skills, perception, level of awareness, level of knowledge and their attitude to CBT in Calabar Metropolis, Cross River State.

Research questions

The following questions were raised to guide the study;

1. What is the influence of gender and school location on prospective tertiary student's attitude to CBT in Calabar Metropolis?
2. To what extent does the level of computer knowledge influence student's attitude to CBT in Calabar Metropolis?
3. To what extent does school type influence student's attitude to CBT in Calabar Metropolis?

Statement of hypotheses

1. There is no significant influence of gender and self-concept on prospective tertiary students' attitude to CBT in Calabar Metropolis
2. There is no significant influence of computer level of knowledge on prospective tertiary students' attitude to CBT in Calabar Metropolis
3. There is no significant influence of school type on prospective tertiary students' attitude to CBT in Calabar Metropolis

Methodology

The study adopts the factorial design for the study with a purposive sampling technique used to collect a sample of 1200 students preparing for UTME examination in Calabar Metropolis. A structured and validated questionnaire by Measurement Experts was used as instrument for data collection and Cronbach alpha was used to estimate the reliability of the instrument which coefficient was got to be 0.87. The instrument was found to be reliable. Data was collected by the researcher with five research experts who were meticulously trained on how to collect information prior to administration of the instrument. The Two-way, One-way analysis of variance (ANOVA) and the independent t-test was used for data analysis and the result is presented below

Presentation of result.

Hypotheses one

There is no significant influence of gender and self-concept on prospective tertiary students' attitude CBT

Table 1

Two way analysis of variance (ANOVA) of gender and self-concept on prospective tertiary students' attitude towards CBT

Sex	Self concept	N	X	S.D
Male	Low	22	23.91	
	Moderate High	42	24.71	1.17
Female	Low	234	24.02	
	Moderate High	318	23.50	2.02
		210	24.74	1.59

Source of variation` Sig.	Type III sum of squares	df	MS	F
Corrected model	390.76 ^a	5	78.15	25.88
Intercept	447448.64	1	447448.64	
Sex	11.01	1	11.015	3.648
Self concept	8.899	2	4.45	1.473*
Sex*Self concept	288.06	2	144.03	47.69
Error	3605.717	1194	3.020	
Total	687156.00		1200	
Corrected Total	3996.480	1199		

R² = .054 (Adjusted R² = .042)

L.S.D. MULTIPLE COMPARISON

Mean differences	Value	decision
High -moderate	3.237*	significant
High -low	-.323*	significant
Moderate low	0.051	not significant

The result of the table shows that at 2 degree of freedom with an F value of 47.69 , the null hypothesis that states that sex and self-concept does not influence students attitude to CBT is rejected. Also there was no main effect of gender (d=1, F= 3.648). One of the main effect was significant (d=2, F=1.473*). That is, there was a significant influence of self concept on students' attitude towards CBT

Hypothesis two

There is no significant influence of computer level of knowledge on prospective tertiary students attitude to CBT in Calabar Metropolis

Table 2

One Way analysis of Variance analysis of computer level of knowledge on prospective tertiary students attitude to CBT in Calabar Metropolis

Variable	N	X	S.D
Low	406	24.06	2.366
Moderate	483	23.73	1.388
High	228	23.81	1.414
Total	1177	23.87	1.83

Source of variation	SS	df	MS
Between	27.72	2	13.86
Within	3951.40	1176	3.36
Total	3979.13	1176	

LSD Multiple Comparison		
Mean differences	Value	decision
Low-moderate	0.335*	significant
Low- high	0.250*	significant
High- Moderate	0.855	not significant

The result in the table above shows that at 2, 1176 degree of freedom, the F value stood at 47.72 with a P-value of .001. Since the p-value is less than the .05, the null hypothesis was rejected in favour of the alternate hypothesis which states that there is a significant influence of computer level of knowledge and students attitude to CBT. The Multiple comparison was carried out using to ascertain the area of the differences. It was found that the differences was at low-moderate (.335*) and low - high (0.250*).

Hypotheses three

There is no significant influence of school type on prospective tertiary students' attitude to CBT in Calabar Metropolis

Table 3

Independent t-test analysis of school type on prospective tertiary students' attitude to CBT in Calabar Metropolis (n= 1200)

Variable	N	X	S.D	df
Private schools	438	23.60	1.65	1198
Public schools	762	24.00	1.90	

From the table above, the result showed that at 1198 degree of freedom with mean values of 23.60 and 24.00 and standard deviations of 1.65 and 1.90 respectively, the p-value was less than .005 which implies that there is a significant difference between private school students and public school students attitude to CBT.

Discussion of findings

The result of the study shows that there is no significant influence of gender on prospective tertiary institution students' attitude to CBT among students. The findings were in line with Clariana & Wallace (2002) that found that gender does not relate with any attitudinal differences among students in their dispositions to computer testing. This finding contradicted the findings of Kadel (2000); Bebetos & Antonio (2008) that female students exhibit more positive attitude to web assessment than male students.

The result also showed that students' self-concept influenced their attitude to CBT. The result was confirmed with the findings of Joshual et al (2014) that students who have low self-concept about their ability to operate the computer are more prone to developing negative attitude to web assessment especially in schools where there are no computers and the students have not seen a real computer other than paper type. This leaves them with no access to the system and their inability to use the system exposes them to computer phobia as a result of the already displayed negative attitude to it.

The study also found that students' level of computer knowledge influences their attitude to CBT. Knowledge of a particular object or event gives an individual the capacity to handle or approach it with confidence knowing well that this are the characteristics of this object. The same is applicable to students who have knowledge of computer. The level of one's knowledge to computing determines their perception and attitude to computing. Students who can operate key board, handle the mouse or even read from the system will not be phobic to innovations that concerns the use of computer for any exercise and the reverse is for other students. The result was in line with that of Karadeniz (2009) students with computer knowledge do not exhibit negative attitude to e-assessment. That the knowledge of internet utilization through their edge leaves them with the opportunity of manipulating the system at will thereby having a strong positive attitude to web assessment exercises.

More so, the study also reveals a significant difference between students in private schools and public schools attitude to CBT. The difference lies on the

fact that most public schools do not have computers and even if they do, it is either there are no computer teachers, poor lightning system and a host of other attendant problems. This is relatively not found in private schools as most of the private schools compulsorily expose students to basic knowledge of computing as well as internet usage. Ogban (2014) noted that private school students are often more confident and exhibit positive attitude to e-assessment than public schools due to administrative and infrastructural differences.

Conclusion and Recommendation

Based on the findings of the study, it can be concluded that there is sex influence on students attitude to CBT while self-concept, school type and level of computer knowledge significantly influence prospective tertiary students attitude to CBT. Based on the conclusions, the following recommendations are made:

1. Students in post primary education should be exposed to basic computer in order to help them acquire relevant computer knowledge before graduation from secondary education
2. Government should ensure that public schools are provided with computer facilities that will enhance the utilization of computer while in schools
3. Teachers should be employed in both public and private schools that will facilitate the enhancement of students' knowledge of basic computer skills.

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