Vol. 7 No. 3 November, 2024
JOURNAL OF ENVIRONMENTAL AND TOURISM EDUCATION
ISSN: 2659-0794 (PRINT) ISSN:2659-0808(ONLINE)
Content Available at: **https://jeate.k-publisher.com/index.php/Jete**

Influence of school Location and Proposed Field of Study on Prospective University Admission Candidates' Attitude Towards Computer-Based Testing in University of Calabar, Nigeria

Oqua Eta Agbo[1]
[1]agbooqua@yahoo.com
&
Adie, Rose U [2]
[2] unwanungrose72@gmail.com

A

Department of Educational Foundations,
Faculty of Educational Foundation Studies,
University of Calabar, Calabar-Nigeria

Keywords

Attitude, School location, proposed field of study, and Computer-Based Testing

Correspondence Email:

agbooqua@yahoo.com

Abstract

This study investigated the influence of school location and proposed field of study on prospective university admission candidates' attitude towards computer-based testing at University of Calabar. A sample of 426 prospective 2015 Unified Tertiary Matriculation Examination (UTME)candidates for admission into University of Calabar was used for the study. Data were gathered using an Attitudinal Scale of Candidate on the use of Computer Based Test (ASCCBT) through accidental sampling. The data were analyzed using an independent t-test and one-way analysis of variance (ANOVA). The findings indicated that: there is no significant influence of school location on prospective university admission candidates' attitude towards Computer-Based Testing, while the proposed field of studyhad a significant influence on prospective university admission candidates' attitude towards Computer-Based Testing. It was recommended among other things that students should be exposed to intensive practical computer usage before completion of secondary education.

Background to the study

An individual's attitude is an important variable in the teaching and learning process. That is why students' attitude towards external examination most especially in Nigeria has been a subject of criticism among scholars and other interested parties for quite a long time now, which has made many scholars speak for or against with respect to a given educational subject or situation.

Computer-related attitude influences students' desire to use a computer andto enroll in computer-related subjects. Candidates' attitude towards computers is also related to their previous experience

in computer usage.The use of Computer Based Test (CBT) has recently been implemented to test students' knowledge, especially in standardized tests anchored by some examination bodies such as the Unified Tertiary Matriculation Examination (UTME) conducted by the Joint Admissions and Matriculation Board (JAMB) etcetera. Prior to this form of assessment, students were assessed through the use of a traditional method called Paper and Pencil Test (PPT) which involves the use of pen, pencil, and paper to write. However, diverse reports from literature has criticized this method while others who were interviewed explained that students living in the urban centres and exposed to internet facilities, have the tendency to do better as compared to their counterparts in the rural centres. Therefore the focus of this study is to determine the influence of school location and proposed field of study on prospective university admission candidates' attitude towards CBT

In a research conducted by Pei-yu (2013) to determine the status of computer usage and the attitude of prospective preschool teachers towards computer. It was observed that variables such as taking a computer course, computer ownership, level of using a computer programme, frequency of computer usage, and computer experience showed a significant difference on the scores of students' attitudes towards the computer. On the other hand, there was no significant difference according to variable in gender. It was recommended that future studies should focus on investigating academicians' attitude towards computer technologies.

Yusuf andBalugun (2011) see CBT as the use of computer to carry out of assessment excerise. They both asserted that experience and inadequate training are some of the major reasons why some students discourage CBT form of assessment. In addition to these, the lack of electricity in most rural settlements, as well as poor qualitiy of school facilities, places the students in the rural school on demerit as compared to their urban counterparts which also influence the field of study selected by these set of students.

Most studies on students' school location have converged on the conclusion that a child's learning location havea significant impact on his/her attitude towards assessment depending on the prevailing conditions. Aschool lacking in ICT related facilities is likely to impact negativelyon the child's attitude to CBT. Adah (2018), studyon the level of interest noticed among Secondary school students in computer application awareness observed that students in a typical urban setting expressed a higher level of interest as compared to a typical rural school which expressed a lesser interest. This observation has been linked to the presence of basic facilities like electricity, pipe-borne water, well-equipped computer laboratories, and other factors that could create a conducive atmosphere for teaching and learning as compared to their their counterparts in the urban.

Similarly, Gulati, (2018) observed that access to funding for educational technology in urban schools differs from that of rural schools with urban schools having a greater percentage in the fund. This limits the opportunity students have to learn and to use computer-related gadgets. The rural-urban infrastructural difference shows that urban areas can boast of electricity as well as

telecommunications gadgets while rural areas remain unconnected and as such disadvantage in ICT which eventually affect their performance inCBT.

Furthermore, students' field of study greatly influences their performance, especially in computer-related examinations.Okocha, Toluwani and Owolabi (2017) observed that the introduction of computer-assisted assessment without consideration of the interface design could lead to a drop in performance, in the analysis of three courses (Biology, Business and Geography) it was revealed that only 55% of students preferred CBT in Geography, 72% preferred CBT in Biology and 90% preferred it in Business. These findings showed that the acceptability of CBT can be said to be dependent on the course type.

On the parts of Bertolo and Lambert (2017) who carried out a study in Chemistry and found that CBT had a positive effect on the student learning experience. While in Physics, it was revealed that only a few students found the system easy, most students considered CBT unfair. It was also shownthat more than 75% of respondents preferred CBT for their medical examination. These findings show that the acceptance of CBT is dependent on the course being tested, while some students have a positive attitude towards it.

More so, Kingston (2019) meta-analysis of k-12 multiple-choice tests, it was noted that CBT provides a little advantage for language, arts and social sciences, while mathematics assessment and pure science favoured Paper and Pencil Test (PPT).Kingston further noted that students' calculated mean performance through the use of computers was higher for English language while science reasoning test results were inconclusive. Many research works identified characteristics of items that may have had adifference in students' performance. In mathematics and other related pure science and vocational studies. These were hypothesized to be items that require paper material, tutorials for specific directions from correspondents. It also required students to use mathematical formulas and tools such as ruler and protractors (Christie, 2010).

Whereas, art and commercial test items require on-screen scrolling because of its lengthy passages of item content which appears to express significant differences in students' performance depending on the method of test administration. Avraham (2015) observed that students in vocational fields who perhaps have made up their minds to pursue vocational education had a superior interest mean of 64.0 and a mean of 60.5 in computer approval and its concern. In terms of confidence, the students in the vocational field still possessed superlative confidence in handling computers with 30.5 as the mean.

This study is meant to determinethe influence of school location and proposed field of study on prospective university admission candidates' attitude towards CBT in the University of Calabar, Nigeria.

Research questions

(i) To what extent does location of schoolinfluence prospective university admission candidates' attitude towards CBT?

(ii) To what extent does proposed field of study influence prospective university admission candidates' attitude towards CBT?

Research hypotheses

(i) There is no significant influence of school location on prospective university admission candidates' attitude towards CBT.

(ii) Proposed field of study has no significant influence on prospective university admission candidates' attitude towards CBT.

Methodology

The study adopted a survey research design. The subject of this study involves 426 Prospective University Candidate 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).

An Attitudinal Scale of Candidate on the use of Computer Based Test (ASCCBT) was used to collect data.The questionnaire consisted of two major parts.The first part sought information about the students' demographic variables (school location and proposed field of study) while the second part was the attitude scale of candidates on the use of CBT with 24 items respectively.The instrument was validated by experts in Measurement and Evaluation and also produced a reliability coefficient of 0.99 as a measure of internal consistency through the use of split-half method of reliability and calculated using spearman brown prophesy formula (rtt). The response of the candidates with respect to respondents' school location and proposed field of study were analyzedusing an independent t-test and One way-Analysis of Variance (ANOVA) were used to test the hypotheses.

Results and Discussion

Ho1:

There is no significant influence of school location on prospective university admission candidates' attitude towards CBT. This hypothesis was tested using independent t-test and the result obtained is presented in Table 1.

Table 1: Independent t-test analysis of the influence of school locationon prospective university admission candidates' attitude towards CBT

Area	N	$\bar{X}$	SD	t-value	p-level
Urban	333	63.89	6.121	.759	.448
Rural	93	63.32	7.174		

P<.05,df 424, critical t=1.965

Table 1 shows the independent t-test indicating a significant p-value of 0.448 which is higher than the 0.05 significant level at 424 degrees of freedom.This implies that there is no significant influence of school location on prospective university admission candidates' attitude towards CBT. Therefore the null hypothesis is accepted and the alternate rejected.

Ho2:

Proposed field of study has no significant influence on prospective university admission candidates' attitude towards CBT. This hypothesis was tested using One-way Analysis of Variance (ANOVA) and the result obtained is presented in Table 2

Table 2: Summary of One-way analysis of variance on the influence of proposed field of study on prospective university admission candidates' attitude towards CBT

Propose field of study	N	Mean	SD		
Science	165	65.04	6.74		
Art	94	63.86	5.84		
Education	95	62.47	6.55		
Management Science	39	61.49	4.71		
Social Science	33	63.55	5.78		
Total	426	63.77	6.36		
.Source of variables	SS	Df	MS	F	p –value
Between Groups	629.932	4	157.483	4.002	.003
Within Groups	16566.594	421	39.351		
Total	17196.526	425			

*.Significant at 0.05 level; df =4,& 421; Critical F = 2.39

The result in Table 2 revealed a calculated F-value of 4.002 and a p-value of 0.003 which is less than 0.05 significance level at 4 and 421 degree of freedom. This implies that proposed field of study has a significant influence on prospective university admission candidates' attitude towards CBT. With these the hypothesis in null form is rejected and the alternate accepted.

In order to clearly understand the influence of proposed field of study on prospective university admission candidates' attitude towards CBT, a post Hoc multiple comparisons was carried out

using Fisher's Least significant difference (LSD) analysis. The result of the analysis is presented in Table 3.

Table 3: Fisher's LSD multiple comparison analysis for the significant influence of Propose field of study on prospective university admission candidates' attitude towards Computer Based Testing

Proposed field of study (I)	Proposed field of study(J)	Mean difference (I-J)	Std. Error	P value.
Science	Art	1.175	.811	.148
	Education	2.563*	.808	.002
	Management science	3.549*	1.117	.002
	Social science	1.491	1.196	.213
Art	Science	-1.175	.811	.148
	Education	1.388	.913	.129
	Management science	2.375*	1.195	.048
	Social science	.316	1.269	.803
Education	Science	-2.563*	.808	.002
	Art	-1.388	.913	.129
	Management science	.987	1.193	.409
	Social science	-1.072	1.268	.398
Management sc.	Science	-3.549*	1.117	.002
	Art	-2.375*	1.195	.048
	Education	-.987	1.193	.409
	Social science	-2.058	1.484	.166
Social science	Science	-1.491	1.196	.213
	Art	-3.16	1.269	.803
	Education	1.072	1.268	.398
	Management science	2.058	1.484	.166

*. The mean difference is significant at the .05 level.

The result from the Fisher's LSD presented in Table 3 showed that there is a significant pair wise difference between candidates who propose to study science and those who propose to study education with a mean difference of 2.563 and a p-value of 0.002. There is also a significant pair wise difference between candidates who propose to study science versus those who propose to study management science with a mean difference of 3.549 and a p- value of 0.002. Furthermore, there is a significant pair wise difference between candidates who propose to study Arts versus Management science with a mean difference of 2.375 and a p- value of 0.048.

Discussion of findings

Hypothesis one states that there is no significant influence of school location on prospective university admission candidates' attitude towards CBT. This hypothesis was accepted as a result of the analysis which revealed that there is no significant influence of school location on prospective university admission candidates' attitude towards CBT. The reason for this may be because since we are in a jet age every student is expected to be exposed to computer related gargets in the course of teaching and learning.

This findings disagree with that of Adah (2018) who investigated the level of perceived interest of secondary school students in computer application and awareness and found that students in typical urban area expressed the highest level of interest while their counterparts in typical rural schools expressed lesser interest. These opinions and findings consider both variables as significantly influencing students' attitudes towards computer application and awareness. Similarly, Yusuf and Balugun (2011) in their own opinion asserted that inadequate training on the part rural students are some of the major reasons why they do not encourage CBT form of assessment since most of these rural areas lack of electricity, internet facilities and also good road network which encourages ICT related activities as compared to their urban counterparts.

That was why Okocha, Toluwani, and Owolabi (2017) asserted that, highly qualified teachers prefer to serve in urban areas rather than the rural areas and that teachers do not accept postings to rural areas because their conditions are not up to the expected standard as their social life in the areas is virtually restricted as a result of inadequate amenities, facilities are deficient, playground are without equipment, libraries are without books while laboratories are glorified one

Hypothesis two stated that proposed field of study has no significant influence on prospective university admission candidates' attitude towards CBT. This hypothesis was rejected as a result of the analysis which revealed thatproposed field of study has a significant influence on prospective university admission candidates' attitude towards CBT. The reserecher believes that students' attitude towards a test format is based on the students' interest and curiousity to knowledge and preparedness for a task before him/her. The findings of this research is in conformity with the results of study carried out by Kingston (2019) who noted that CBT provides a small advantage to language, art, and social science as compared to mathematics and pure science. Kingston observed that there was no significant difference found between mathematics and language art scores of students who took the test on computer and those who took the test on paper. Furthermore science and vocational studies, students who took the test on computer out-performed students who took the test on paper significantly.

Conclusion

The need for computer knowledge cannot be over-emphasized.This is because of the changes in the educational trend motivated by technology. The schoolplay a very significant role in preparing

candidates for CBT form of examination, just as they play the same role in preparing students for the country and the world at large.

From the result above, the findings showed that school location does not have any significant influence on prospective university admission candidates' attitude towards CBT while students' proposed field of study has a significant influence on prospective university candidates' attitude towards CBT. This is the judgment from the students' perspective. It would also be interesting to ascertain the views of experts and other stakeholders on this very important subject, particularly in the face of mounting pressure and criticism of the educational sector and its results as well as the fast and rapid change in ICT. However, it should be noted that the use of CBT has come to stay most especially in the selection of qualified direct entry candidates into Nigerian higher institutions of learning through JAMB and post UTME.

Recommendations

Based on the findings of this study, the following recommendations were made to ensure harmonization of candidates' attitude towards CBT were made;

1. Both primary and secondary school students in Nigeria and particularly in Cross River State should provide a computer laboratory and make computer studies compulsory. This will inculcate computer appreciation in the learners even before their exposure to computer-based test.
2. The government and other non-governmental agencies should assist to provide ICT gadgets in every school irrespective of its location as well as make provision for a steady supply of power in both rural and urban schools.
3. Government should encourage e-learning and assessment in our public primary and secondary schools so as to bridge the gap of location difference among urban and rural students.

References

Adah, S. A. (2018). Effect of prior concurrent, and post-exposure to related mathematical principles on students achievement and retention in Chemistry in Cross River State, Nigeria, *Unpublished Thesis University of Calabar, Calabar.*

Avraham, L. (2015). *Difference in the way males and females perceive computer.* Retrieved from http://server.org/courses/spring97/76100 o/c contributions/avraham/on 24th March 2014.

Bertolo, E., & Lambert, G. (2017). Implementing CAA in Chemistry: A case study. *International Conference, University of Loughborough, Retrieved from http://caaconference.com*

Christie B. (2010). Computer- Based Assessment: Research Comparing performance computer and paper tests, Based on computer characteristics: *Office of Assessment Research, and data analysis, Florida.*

Gulati, S. (2018). Technology enhanced learning in developing nature: *A review international Review of Research in open and distance learning, 9 (1), 1-16.*

Kingston, N. M. (2019). Comparability of Computer and paper Administered multiple- choice test for k-12 populations: A synthesis: *Applied measurement in Education, 2 (1), 22-37.*

Okocha, F, Toluwani, E., & Owolabi, S. (2017). Students Perception and Acceptance of Computer Based Testing: A case study of Landmark University Students. *Journal of Digital Innovation & Contemporary research in science engineering & technology. 5(1) 25-32.*

Pei-yu Wang (2013). Examining the Digital Divide between Rural and Urban schools: Technology Availability, Teachers' Integration level and students' perception, *Journal of curriculum and Teaching, Taiwan, 3(1), 37-39.*

Yusuf, M. O. & Balogun, M. R. (2011). Students Teachers Computer and Attitude towards information and communication Technology: A case study in a Nigerian University. *Contemporary Educational Technology, 2 (1) 18-36.*