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THE ATTITUDE OF STUDENTS TO GENERAL STUDIES COMPUTER BASED TESTS IN UNIVERSITIES IN SOUTH WEST NIGERIA

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ABSTRACT: *problem of state of student's computer literacy and accessibility, inadequate computers and internet facilities in some universities. The paper examined the attitude of students to general studies computer based tests in Universities in South West Nigeria. The purpose was to ascertain the extent to which the objectives of General Studies programme had been implemented using computer - based test. The research design for this study was a descriptive research of the survey type. The population for the study comprises 60,000 100 level undergraduate students of 2016/2017 academic session in both private and public universities. The sample for the study consisted of 1800 students selected through Multistage Sampling Procedure. Two instruments were used as General Studies Achievement Test (GSTAT), Questionnaire on General Studies Interest Scale (QGSTIS) Face, Content and Construct validity of the instruments were ensured and the reliability of the instruments was ensured using Pearson Product Moment Correlation Analysis. The reliability coefficients of 0.65, 0.70 and 0.72 were found for GSTAT and QGSTIS respectively. The data collected were analysed using inferential statistics such as t- test and Two – way Analysis of variance (ANOVA). All the hypotheses were tested at 0.05 level of significance. The study concluded that the students' attitude to Computer Based Test for General Studies examination was positive and the objectives of general studies using computer based test were achieved and effectively implemented. Findings from the study showed that the attitudes of students 'usage of Computer Based Tests for general studies was encouraging. The non-ICT and ICT students' knowledge of CBT while in the secondary schools had no influence on the knowledge of CBT whereas type of university should emphasis the use of CBT for General studies Examination once since there was positive attitude of students on the use of CBT for GST.*

KEYWORDS: Attitude, Computer Based tests and General Studies

INTRODUCTION

University education is an institution at the highest level of education where one can study for a degree or do research (Hornby, 2006). University education is popularly suggested, for three purposes: (i) to train the minds of young people (ii) for research activities and (iii) to recognize achievement. Considering these purposes, the need for quality and relevance of the education in any university cannot be over-stressed. The quality and relevance of higher education in today's dynamic world should exist between the objectives and content of education. This implies that the social expectation and skills needed, within the world of work should be achieved through teaching and learning in tertiary institution (Ogunleye, Oke, Adeyemo and Adenle, 2008).

Public university is a university that is publicly owned or receives significant public funds through a national or subnational government as opposed to a private university. Whether a national university is considered public varies from one country to another, largely depending on the

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specific education landscape. Private university that often operates as educational non-profit organization. It does not receive its primary funding from a state government. Private universities are each intensely unique. From differences in curriculum and academic standards to mission statements. The introduction of general studies computer based testing in high stakes examining in higher education is developing rather slowly due to institutional barriers.(the need of extra facilities , ensuring test security. In the universities it was observed that implementation of computer based tests for general studies requires a secure testing environment, one that prevents students from seeking answers by scanning computer hard drives, instant messaging or e-mailing friends or browsing ng the internet. Lack of standardized /unified CBT development model alone undermines the success of the general studies computer based tests platform for real time adoption in practice.

The Secondary education is the stop-gap between primary and tertiary education aimed at preparing the individual for useful and productive living within the society. Many Nigerian students are in haste to know Information communication Technology very well but most of the secondary schools do not offered ICT due to lack of funding from the government and even most of the secondary Schools offering ICT/Computer science are operating on obsolete equipment, no networking connection, lack of competent teachers, lack of ICT infrastructure including hardware's, software bandwidth accessibility. Again, the absence of power supply, internet facilities in some rural areas where secondary school are located requires students travelling long distance to urban centres to have access to internet. With all these problem students graduates from secondary school, students' knowledge of CBT will definitely affect their performance in the universities if computer based test is adopted for General studies in the universities while those students who have undergone secondary schools offering ICT will surely performed better because of adequate skills on it. Many school leavers in the country are not computer literate. Even many in the Secondary schools leavers cannot boot a computer not to talk of using any application. With these analogue teachers to impact ICT skills to students, definitely the students cannot be adequately equipped for CBT software functioning. Science as a process by which we test our ideas about the natural world, and revise those ideas accordingly based on the results. The tests, or experiments, are key- ancient philosophers spent lots of time speculating about the nature of the natural world, but they never got very far because they didn't really test their ideas .

Science begins with methodological rationalism whereas non science is heavy with beliefs that may not even have an ethics of belief attached to them thus are not starting with methodological system of methods in thought, actions or conclusions by means of a sold relation to valid and reliable reason and evidence like science A specific non – scientific field. A body, set, or system of information, methods, beliefs, and hypotheses (such as astrology or chiromancy) that does not use the scientific method as a basis for observation , or development of a theory. Science students are those who read courses that related to science like Medicine, Anatomy, Microbiology, Engineering courses etc. while non - science are those student who read course which are not related to science courses like Humanities, Art and Languages, International studies etc.

Umunadi (2011) posited that the philosophy behind the General Studies is to expose the students to knowledge outside their chosen disciplines as fresh term of methods in thought, actions or conclusions by means of a sold students in the university. The General Studies courses are meant

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to expose students to greater awareness for the graduate about other disciplines of study with a view to making them perform better in their chosen field of study and become better members of the society on the long run. The review of General Studies programme in different universities in Nigeria cannot be overemphasized. The National Universities Commission, over the years, also stressed the need for the review of General Studies programme. General Studies Handbook, Ekiti State University (2014), stated that the General studies unit is as old as the university. It was designed to co-ordinate multi-disciplinary studies that could broaden knowledge and widen the academic horizons of students of the University in all Departments and Faculties. The specific objectives of the General Studies was established to achieve some objectives like to assist students to develop, appreciate and expand the awareness of their social and cultural values, help students develop adequate competence in the due of the English Language and improve their language and communication skills as a tool for their present studies and future employments, introduce students to the broad areas of sciences and create awareness of the services of science to man and the effect of science on human society, sensitize students to the various functions and obligations of government at all levels and their physical environments prepare them to integrate and function effectively in the society, socialize students to cultivate derivable habits of sublime values and attitudes of patriotism and nationalism and make all students more acceptable, employable and much more independent in the labour market.

Moreover, the pencil-and-paper examination has been fraught with numerous problems ranging from shortage of examination materials `to impersonation, cheating in examination halls, cases of missing scripts, improper scoring of examinees' responses, delay in computing and processing of results, demand for gratification by the lecturers, delay in the issuance of transcript of academic records and so forth (Abdulkareem & Alabi, 2004; Ekere, 2009). All these problems lead to the introduction of using CBT for General Studies. The disturbing trend in examination fraud in Nigeria tends to show that educational measurement is losing credibility, a serious threat to quality educational standard. Therefore Computer-based testing **(CBT)** simply refers to test and assessments conducted through the use of the organised systems in Computer. The benefits of using for examinations are enormous. The objectivity and security of the testing and the test items are important steps to eliminating examination malpractices, and improving admission and examination processes in the university system. These benefits have been corroborated by Blurton (2002), who opined that with the use of ICTs, universities can improve the admission process by putting admission forms on-line and receiving completed forms online. They can also generate cards for entrance qualifying and semester examinations online. These procedures would speed up admission and examination processes and help in faster results declaration. Another benefit of CBT is the use of archival databank for the eventually admitted candidates.

LITERATURE REVIEW

Wang and Huang (2006) used another four learning modes (concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE)). Results showed that both learning style and formative assessment strategy are significant factors affecting student achievement in a Web-based learning environment. A nationally representative school-level survey on information technology conducted by the National Center for Education Statistics (Gray, Thomas, & Lewis, 2010) reported several findings about the availability and use of

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technology in schools in the fall of 2008 where the results generally indicated that computers with Internet access were available for instruction, and that the ratio of instructional computers with Internet access was 3 to 1. The majority of computers in public schools were used for instruction. Schools also reported using a district network or the Internet to provide assessment results for teachers to individualize instruction or to inform instructional planning; nearly three-fourths provided online student assessments. Full-time technology staff members were available in about one-third of low poverty schools and one-fourth of high poverty concentration schools. The survey did not ask about availability of computers to students with disabilities, or about the use of computers for statewide testing.

Studies on gender influence on students' perception of e-assessment have been done by Kadel (2005), Bebetos and Antonio (2008) and Ayo, et al (2007). The literature has shown both positive attitude and high regard to e-assessment, with more positive perception by female students. Zhang and Espinoza (1998), on the other hand, found that the less confident a student feels about computer skills, the more he/she desires to learn about computer technology. A high level of computer anxiety has been negatively related to learning computer skills in the sense that students with higher level of computer anxiety exhibited more resistance to the use of computers. There are also studies reporting that males on average have better computer self-efficacy and greater computer anxiety than females (McIlroy, Bunting, Tierney, & Gordon, 2001).

However, controlling for computer experience, males and females had similar interest toward 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. Shaw and Giacquinta (2000) reported that two commonly held beliefs, that older students show more resistance than younger students toward computing for academic purposes and that males are more interested and skilled in the use of computers than females, are no longer accurate. While Loyd and Gressard (2004) found no difference in computer anxiety levels for males and females in a sample of high school and college students, Chen (2006) on the other hand, found significant sex-related differences, with high school males being less anxious and holding more positive attitudes of interest in and confidence with computers than did females. Differences in computer attitudes such as interest, liking and confidence were also obtained in investigations by Levin and Gordan (2009), and Popovich et al (2007) with males holding more positive attitudes. The amount of experience with computers is also a significant factor in computer anxiety because anxiety is produced in part, by a lack of familiarity with computer use.

In fact, a major finding of the study by Levin and Gordan (2009) suggested that prior computer exposure has a stronger influence on attitudes than gender. Students with little or no computer experience were significantly more anxious about computers than those with more experience. This finding is supported by Loyd and Gressard (2004) who found that although students' attitudes towards computers were not dependent on sex, they were affected by the amount of computer experience, with more experience related to decreased anxiety and increased positive attitudes. Manifestations of computer experience could be having access to a computer at home, participating in computer-related courses, playing computer games or knowing how to work with computers. Students who have a computer at home tend to have lower computer anxiety than those who do not. Boys are also more likely to have used computers more frequently at both home and

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school, as well as in informal settings (Chen, 2006). The results of the effect of demographic attributes on students' CBT performance are not always consistent. For example, some studies indicate that gender was not related to performance differences between CBT and PPT (Clariana and Wallance, 2002; Alexander et al., 2001), while other studies suggest that gender is associated with the test mode (Leeson, 2006; Gallagher et al., 2000), with male examinees benefiting from the CBT format more than female examinees who showed slightly poorer performance on CBTs. Though age was found to be associated with the test mode effect (Parshall and Kromrey, 1993). The study by Alexander et al. (2001) suggests no difference in the administration mode for age and class level.

This collaboration with some universities now uses an online platform as the primary delivery mode for one or more computer-based tests used for examination purposes. When CBT was emerging in state testing in the early 2000s, Thompson, Thurlow, Quenemoen, and Lehr (2002) examined the implications of CBT for students. There was not much literature about the use of CBT for large-scale assessments at that time, and Thompson et al. worked with state to explore what needed to be considered during development for students with disabilities and how states might address the needs of these students for accommodations in a CBT environment.

Purpose of the Study

- to ascertain lecturers effectiveness as to whether there were problems with the software packages used during the GST examination with CBT.
- investigate the challenges faced by the students when answering questions using CBT and how efficient the technical officials performed.
- improve the acceptability of using Computer Based Testing in GST unit in the university System in Nigeria and General Studies test items using CBT in universities selected in South/west specifically with reference to the extent to which objectives were being achieved.

Research Questions

The following research questions were raised from the study:

1. Is there any relationship between non- ICT and ICT of students' use of CBT in public and private universities while in the secondary schools.
2. Is there any relationship between male and female students' use of CBT in public and private universities.
3. Is there any relationship between the students' knowledge of CBT in public and private universities.
4. Is there any relationship between the CBT knowledge of students with the science and non-science students in public and private universities

Research Hypotheses

The hypotheses were be tested at 0.05 level of significance.

1. There is no significant difference between non- ICT and ICT of students' use of CBT in public and private universities while in the secondary schools.
2. There is no significant difference between male and female students' use of CBT in public and private universities.

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3. There is no significant difference between the students' knowledge of CBT in public and private universities.
4. There is no significant difference between the CBT knowledge of students with the science and non-science students in public and private universities

METHODOLOGY

The researchers employed a descriptive research design of the survey type.The population for this study comprised 60,000 2016/2017, 100 level undergraduate students, who took General Studies test items using CBT in both private and public universities in South West, Nigeria. A sample of 1800 was randomly selected for the study. The null hypotheses were tested using inferential statistics such as T–test hypotheses, Two – way ANOVA (Analysis of Variances) for the Hypotheses.

RESULTS

Hypothesis 1

There is no significant difference between Non-ICT and ICT of students' knowledge of CBT in public and private universities while in the secondary schools.

Table 1: 2X 2 ANOVA of students' knowledge of CBT by type of secondary schools attended and institution type

Source	SS	Df	MS	F	P
Corrected Model	1365.648	3	455.216	5.870	.001
Type of secondary school	1.462	1	1.462	.019	.891
Type of university	710.592	1	710.592	9.164	.003
Type of secondary school * Type of university	187.975	1	187.975	2.424	.120
Error	125388.508	1617	77.544		
Total	1369717.000	1621			
Corrected Total	126754.157	1620			

p>0.05

Table 1 reveals that there is no significant difference between Non-ICT and ICT of students' knowledge of CBT in public and private universities while in the secondary schools ($F_{1,1617}$=2.424, p>0.05). The null hypothesis is not rejected. Similarly, the main effect of type of secondary school attended on students' knowledge of CBT is not significant at 0.05 level ($F_{1,1617}$=0.019, p>0.05). However, type of university had significant main effect on students' knowledge of CBT at 0.05 level ($F_{1,1617}$=9.164, p<0.05).

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Hypothesis 2

There is no significant difference between male and female students' knowledge of CBT in public and private universities.

Table 2: 2X 2 ANOVA of students' knowledge of CBT by gender and institution type

Source	**SS**	**df**	**MS**	**F**	**P**
Corrected Model	1654.125	3	551.375	7.127	.000
Gender	172.740	1	172.740	2.233	.135
Type of university	889.571	1	889.571	11.498	.001
Gender * Type of university	119.859	1	119.859	1.549	.213
Error	125100.032	1617	77.366		
Total	1369717.000	1621			
Corrected Total	126754.157	1620			

p>0.05

Table 2: reveals that There is no significant difference between male and female students' knowledge of CBT in public and private universities ($F_{1,1617}$=1.549, p>0.05). The null hypothesis is not rejected. Similarly, the main effect of gender on students' knowledge of CBT is not significant at 0.05 level ($F_{1,1617}$=2.233, p>0.05). However, type of university had significant main effect on students' knowledge of CBT at 0.05 level ($F_{1,1617}$=11.498, p<0.05).

Hypothesis 3

There is no significant difference between students' knowledge of CBT in public and private universities.

Table 3: t-test showing students' knowledge of CBT by type of institution

Type of university	**N**	**Mean**	**SD**	**Df**	**t**	**P**
Public	1141	28.23	9.283	1619	3.815	0.000
Private	480	26.40	7.562			

***p<0.05**

Table 3: reveals that there is no significant difference between students' knowledge of CBT in public and private universities (t=3.815, p>0.05). The null hypothesis is not rejected.

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Source	SS	df	MS	F	P
Corrected Model	1495.373	3	498.458	6.435	.000
Faculty	214.523	1	214.523	2.769	.096
Type of university	870.142	1	870.142	11.233	.001
Faculty *Type of university	36.136	1	36.136	.466	.495
Error	125258.784	1617	77.464		
Total	1369717.000	1621			
Corrected Total	126754.157	1620			

Hypothesis 4
There is no significant difference between the CBT knowledge of students with science and non-science in public and private universities.

Table 4: 2X 2 ANOVA of students' knowledge of CBT by Faculty and institution type
p>0.05

Table 4 reveals that there is no significant difference between the CBT knowledge of students with science and non-science in public and private universities. ($F_{1,1617}$=0.466, p>0.05). The null hypothesis is not rejected. Similarly, the main effect of faculty on students' knowledge of CBT is not significant at 0.05 level ($F_{1,1617}$=2.769, p>0.05). However, type of university had significant main effect on students' knowledge of CBT at 0.05 level ($F_{1,1617}$=11.233, p<0.05). Table 4 shows that there is no significant difference between the CBT knowledge of students in rural and urban locations in public and private universities ($F_{1,1617}$=0.126, p>0.05). The null hypothesis is not rejected. However, the main effect of university location on ($F_{1,1617}$=10.889, p<0.05)and type of university ($F_{1,1617}$=121.705, p<0.05) on students' knowledge of CBT is statistically significant at 0.05 level in each case.

DISCUSSION

The study revealed that there is no significant difference between Non-ICT and ICT of students' knowledge of CBT in public and private universities while in the secondary schools .Also study showed that the main effect of type of secondary school attended on students' knowledge of CBT is not significant and the type of university had significant main effect on students' knowledge of CBT. The findings indicate that computer-based or computer-assisted instruction may not be optimal for all students. In their study to investigate the effects of formative assessment and learning style on student achievement in a Web-based learning environment. Wang and Huang (2006) used another four learning modes (concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE)). Results showed that both learning style and formative assessment strategy are significant factors affecting student achievement in a Web-based learning environment. A nationally representative school-level

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survey on information technology conducted by the National Center for Education Statistics (Gray, Thomas, & Lewis, 2010) reported several findings about the availability and use of technology in schools in the fall of 2008 where the results generally indicated that computers with Internet access were available for instruction, and that the ratio of instructional computers with Internet access was 3 to 1. The majority of computers in public schools were used for instruction. Schools also reported using a district network or the Internet to provide assessment results for teachers to individualize instruction or to inform instructional planning; nearly three-fourths provided online student assessments. Full-time technology staff members were available in about one-third of low poverty schools and one-fourth of high poverty concentration schools. The survey did not ask about availability of computers to students with disabilities, or about the use of computers for statewide testing.

The result of the study showed that there is no significant difference between male and female students' knowledge of CBT in public and private universities. Again the revealed that the main effect of gender on students' knowledge of CBT is not significant and the type of university had significant main effect on students' knowledge of CBT. Studies on gender influence on students' perception of e-assessment have been done by Kadel (2005), Bebetos and Antonio (2008) and Ayo, et al (2007). The literature has shown both positive attitude and high regard to e-assessment, with more positive perception by female students. Zhang and Espinoza (1998), on the other hand, found that the less confident a student feels about computer skills, the more he/she desires to learn about computer technology. A high level of computer anxiety has been negatively related to learning computer skills in the sense that students with higher level of computer anxiety exhibited more resistance to the use of computers. There are also studies reporting that males on average have better computer self-efficacy and greater computer anxiety than females (McIlroy, Bunting, Tierney, & Gordon, 2001).

However, controlling for computer experience, males and females had similar interest toward 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. Shaw and Giacquinta (2000) reported that two commonly held beliefs, that older students show more resistance than younger students toward computing for academic purposes and that males are more interested and skilled in the use of computers than females, are no longer accurate. While Loyd and Gressard (2004) found no difference in computer anxiety levels for males and females in a sample of high school and college students, Chen (2006) on the other hand, found significant sex-related differences, with high school males being less anxious and holding more positive attitudes of interest in and confidence with computers than did females. Differences in computer attitudes such as interest, liking and confidence were also obtained in investigations by Levin and Gordan (2009), and Popovich et al (2007) with males holding more positive attitudes. The amount of experience with computers is also a significant factor in computer anxiety because anxiety is produced in part, by a lack of familiarity with computer use.

In fact, a major finding of the study by Levin and Gordan (2009) suggested that prior computer exposure has a stronger influence on attitudes than gender. Students with little or no computer experience were significantly more anxious about computers than those with more experience.

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This finding is supported by Loyd and Gressard (2004) who found that although students' attitudes towards computers were not dependent on sex, they were affected by the amount of computer experience, with more experience related to decreased anxiety and increased positive attitudes. Manifestations of computer experience could be having access to a computer at home, participating in computer-related courses, playing computer games or knowing how to work with computers. Students who have a computer at home tend to have lower computer anxiety than those who do not. Boys are also more likely to have used computers more frequently at both home and school, as well as in informal settings (Chen, 2006). The results of the effect of demographic attributes on students' CBT performance are not always consistent. For example, some studies indicate that gender was not related to performance differences between CBT and PPT (Clariana and Wallance, 2002; Alexander et al., 2001), while other studies suggest that gender is associated with the test mode (Leeson, 2006; Gallagher et al., 2000), with male examinees benefiting from the CBT format more than female examinees who showed slightly poorer performance on CBTs. Though age was found to be associated with the test mode effect (Parshall and Kromrey, 1993). The study by Alexander et al. (2001) suggests no difference in the administration mode for age and class level.

3. The result of the study revealed that there is no significant difference between students' knowledge of CBT in public and private universities. The result of the study revealed that there is no significant difference between the CBT knowledge of students with science and non-science in public and private universities. However, the main effect of faculty on students' knowledge of CBT is not significant and the type of university had significant main effect on students' knowledge of CBT. This collaboration with some universities now uses an online platform as the primary delivery mode for one or more computer-based tests used for examination purposes. When CBT was emerging in state testing in the early 2000s, Thompson, Thurlow, Quenemoen, and Lehr (2002) examined the implications of CBT for students. There was not much literature about the use of CBT for large-scale assessments at that time, and Thompson et al. worked with state to explore what needed to be considered during development for students with disabilities and how states might address the needs of these students for accommodations in a CBT environment. The findings indicate that computer-based or computer-assisted instruction may not be optimal for all students. In their study to investigate the effects of formative assessment and learning style on student achievement in a Web-based learning environment. Wang and Huang (2006) used another four learning modes (concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE)). Results showed that both learning style and formative assessment strategy are significant factors affecting student achievement in a Web-based learning environment.

CONCLUSION

Based on the findings of the study, the following conclusions were drawn.
There was no variations in the knowledge of non-ICT and ICT of students' knowledge of CBT whereas type of university influenced the students' knowledge of CBT and its use.

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RECOMMENDATIONS

1. Both the Public and Private universities are advise to create more effort on CBT for General Studies Examination once there is a positive attitude of students on the use of CBT for GST. CBT must be continually used in both public and private universities.
2. Both human resources and instructional resources must be adequate at all times to facilitate effective usage of CBT.

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