Students’ Perception of the Constraints of Writing Computer Based Test on Office Technology and Management Courses in Polytechnics in Delta State

Onojaife, Caroline Azuoma (PhD)
Department of Office Technology and Management, Delta State Polytechnic, Ozoro, Nigeria

In order to execute this study, three research questions were raised and three null hypotheses were tested. The study adopted descriptive survey design. A sample of 180 respondents were purposively selected from the entire population of 1819 OTM students in the three public owned polytechnics in Delta State. A validated questionnaire containing 15 items with an overall reliability of 0.84 established by Cronbach alpha was used for data collection. Findings of the study revealed that OTM students agreed that there are computers, administrative and personnel constraints of writing CBT on OTM course in polytechnics in Delta State. The study further disclosed that OTM students in OND and HND level has no significant difference in their mean ratings on the computer, administrative and personal constraints of writing CBT on OTM courses in polytechnics in Delta State. The study concluded that OTM educators must actively use ICT in their day to day classroom activities to enable their students acquire a wide range of e-assessment skills to manage the immediate constraints of writing CBT in polytechnics. It was recommended among others that management of polytechnics should see to the provision of functional desktops and laptops with reliable internet connection to facilitate the use of computer based examination across all schools and programmes of polytechnics in Delta State.

Introduction

Education is a major instrument used by nations to free their citizenry from the chains of colonial slavery, ignorance and poverty. Educational system of nations is structured based on needs and demands of their immediate society. Correspondingly, Ementa and Onokpanwu (2019) asserted that the Nigerian educational system is systematically structured into pre-primary, basic, secondary and tertiary education. Tertiary education is the zenith of formal teaching and learning engagements experienced by an average Nigerian student. Holistically, Dada and Eni-Olorunda (2014) averred that tertiary education include undergraduate and postgraduate programmes of universities, colleges of education, polytechnics as well as institutes of technology that provide advanced educational experiences and training.

Ideologically, polytechnics are technical institutes of learning set up for equipping students with the requisite practical skills needed by engineering, industrial and production firms. In Nigeria, federal and state owned polytechnics run two major programmes, which are National Diploma (ND) and Higher National Diploma (HND). One of the technology oriented based programmes offered in polytechnics is office technology and management. Historically, Office Technology and Management (OTM) programme was designed by the
National Board for Technical Education (NBTE) to replace the Secretarial Studies programme which had been on stream since 1989. The replacement was as a result of the former programme inability to prepare students for the innovative and global practices of the 21st century office occupations. In this light, Ohakwe and Njoku (2008) reported that between Wednesday 17th November 2004 and Friday 26th November 2004, the UNESCO Nigeria Project in support of revitalisation on Technical and Vocational Education (TVE) in Nigeria held a workshop at Kaduna on “Train-the-Trainers”, for the review of Business and Management curricula for Polytechnics.

It is important to note that the participation of UNESCO experts during the review resulted in an international outlook leading to the integration of information and communication technologies (ICTs) and modern workplace practices, skills and curriculum procedures not included in the old Secretarial Studies programme. Office Technology and Management (OTM) is a comprehensive activity-based educational programme that is concerned with the acquisition of office technology and management skills, work habits and competencies that are essential in secretarial and office occupations (Udo, 2008). The aim of OTM programme as stipulated by the National Board for Technical Education (NBTE) in Oborah (2011) is to equip students with secretarial/office skills for employment in various fields of endeavour as well as to equip them with effective work competencies and socio-psychological work skills which are very essential in everyday interactions in human societies.

Office Technology and Management (OTM) according to Aina (2019), is a subset of business education programme designed to prepare students who are interested in developing careers in keyboarding operation, stenography, office management, establishment of business training school, computer centres, data processing, small or medium business enterprises and teaching through the acquisition of appropriate skills, knowledge abilities and attitude that will make them enter and progress in their economic endeavour. Correspondingly, Ezenwafor (2012) averred that OTM, which is an option in business education programme, is concerned with producing graduates who can quickly access data or information, process, disseminate, store and retrieve for future use as demanded by their employers or supervisors. Hence, Igbinoba (2008) and Aina (2019) opined that OTM courses include shorthand, keyboarding, office practice, record-keeping, word processing, secretarial duties, business methods, office practice, business law, computer appreciation and application, and consumer education, office management, small business management, and entrepreneurship education.

According to Udo and Bako (2014), the teaching of OTM courses enable students to:

a) perform general office work by relieving executives and other company officials of minor executive and clerical duties
b) take down dictation from the boss using shorthand or stenotype machine
c) transcribe dictation or the recorded information reproduced on a transcribing machine
d) make appointments for the executive and reminding him or her of them
e) interview people coming into the office and directing to other workers those who do not need to see the chief executive
f) handle personal and important mails, writing routine correspondence on his/her own initiatives
g) make and answer telephone calls
h) supervise other clerical workers
i) keep personnel records of events in the offices

In educational parlance, educators’ use examination and test exercises to determine the efficacy of their instructional delivery and measure students’ academic performance. Although, social entrepreneurs believed that examination does not reveal the hidden potentials of a student, academicians opined that examination has a way of exposing students...
to the necessary skills, attributes, attitudes and mental awareness needed to succeed in both formal and informal settings. Hence, Emaikwu (2012) viewed examination as part of evaluation which determines a learner’s level of skill acquisition or intellectual competence and understanding. In Nigerian polytechnics, almost 90 percent of examination and test exercises are conducted using the pen and paper format. Anene (2016) averred that pen and paper format of examination is an assessment technique in which students read questions and respond in writing on authorised paper sheet.

Paper and pen format of examination encourages students to process and provide academic information in their own words within a flexible timeframe. Thus, one can infer that pen and paper system of examination facilitates retention of basic knowledge of subject matters. Despite the usefulness of the pen and paper format of examination, the advent of ICTs has institutionalised intelligent ways of encouraging various forms of examination malpractice. Students now record and play presumed questions and answers on their earphones and mobile phones in examination halls without the knowledge of invigilators and teachers. Comprehensively, Anene (2016) stated that pen and paper examination enables students to bring foreign material into the examination hall, aids them to write on currency notes and identity cards and facilitates spying of other candidates’ works, substitution of answer sheets and change of examination scores or grades by teachers. Others include, impersonation, leakage of questions to students before the examination day, conniving with supervisors and school authorities to cheat, establishment of special or miracle examination centres across the country, female students writing answers on hidden parts of their bodies.

Without any iota of doubt, examination malpractices mitigate the standard, reliability, objectivity and credibility of assessment exercises. The clarion call for standardization of assessment exercises led to the advent of Computer Based Test (CBT). According to Sadiq and Onianwa (2011), CBT is an internet based test or assessment powered by computer or other technological devices. It can take two formats: The first type requires the student to fill in their answers on a paper form which is then fed into a computer optical mark reader. Here the reading of the paper, scoring, and report on the test reliability is done. In the second type, the computers provide an assessment interface for students to input their answers and receive immediate feedback. In another note, Ajinaja (2017) posited that linear test and adaptive test are the two types of CBT. Linear test involves a full-length examination in which the computer selects different questions for individuals without considering their performance level. While in adaptive test, the computer selects the range of questions based on an individual performance level. The questions are taken from a very large pool of possible questions categorised by content and difficulty.

Undoubtedly, computer based test is one of the impact of ICTs on educational practices. In education literature, Computer Based Test (CBT) is also known as Computer Assisted Testing (CAT), Computerised Assessment, Computer Aided Technology (CAI), Computer Based Assessment (CBA), Online Assessment, West-Based Assessment, Technology Enhanced Assessment, Automation Assessment and E-Assessment, Test or Examination (Obioma, Junaidu & Ajagun, 2013; Alabi, Issa, &Oyekunle, 2012). Ogechukwu (2019) described CBT as a form of ICT platform for test administration or assessment where examinees’ responses are electronically coded, assessed, recorded with prompt publication of results. One can infer that the immediate feedback mechanism of CBT on students’ performance makes the pen and paper examination less attractive in educational institutions. More so, Kuzmina (2010) stressed that CBT reduced testing time, increased test security, provision of instant scoring, better use of professional time, reduced time lag, suitable for individual or groups testing, greater standardisation and control, greater utility for special students and long-term cost savings for educational institutions.
The discourse on the shift from pen and paper format of assessment to computer assessment comes with its own constraints. The fact that CBT requires a lot of ICT facilities and gadgets to achieve its purpose is a major constraint in a developing nation like Nigeria. One may wonder how a nation that cannot provide cheap books and writing materials for her citizenry will be able to provide relatively expensive ICT infrastructural and facilities for conducting successful CBT in her educational institutions. Khaleel (2017) opined that the frequent updates of ICT resources and virus attacks on the security network of digital platforms are some of the constraints of CBT. Inadequate technology infrastructures such as frequent power outage and poor internet connectivity as well as inadequate ICT experts who are competent to handle CBT activities of programming, assembling and arranging is a great challenge to its application (Kas & Yah, 2018).

The application of CBT system in writing OTM courses in polytechnics provides an innovative outlet for preparing students for the already computerised office work. However, this system of examination is expensive and requires enormous funding due to frequent upgrades and changes of ICT hardware and software, fund to train facilitators and preservation of acquired ICT resources (Friedrich, 2008). In their view, Nkwocha, Akanwa and Nkwocha (2015) opined that power failure, insufficient supply of computers, candidates’ poor competence in the use of computers and lack of adequate assistance for candidates who experience technical hitches in CBT centres are parts of the constraints of writing CBT. With these in mind, OTM students may experience computer, administrative and personal constraints among others when writing CBT in polytechnics.

The researcher observed that Departments of Office Technology and Management (OTM) in polytechnics in Delta State, Nigeria are yet to develop a proactive ICT culture among educators and students in the course of teaching and learning. This observation cast doubt on the researcher, if truly CBT systems are used in assessing students’ academic performance in OTM courses. From literature gathered, there are a lot of research works on the usefulness of CBT in secondary schools and universities in Nigeria but empirical studies on the students’ perception on the constraints of writing CBT on OTM courses in polytechnics in Delta State are rare. In a bid to fill this gap in knowledge, the researcher sought to determine students’ perception on the computer, administrative and personal constraints of writing CBT on OTM courses in polytechnics in Delta State. With these objectives, the paper is guided by the following research questions and hypotheses.

**Research Questions**
1. What are the computer constraints of writing CBT on OTM courses as perceived by students in Delta State?
2. What are the administrative constraints of writing CBT on OTM courses as perceived by students in Delta State?
3. What are the personal constraints of writing CBT on OTM courses as perceived by students in Delta State?

**Hypotheses**
1. OND and HND students do not differ significantly in their mean ratings on the computer constraints of writing CBT on OTM courses in Delta State.
2. OND and HND students do not differ significantly in their mean ratings on the administrative constraints of writing CBT on OTM courses in Delta State.
3. OND and HND students do not differ significantly in their mean ratings on the personal constraints of writing CBT on OTM courses in Delta State.

**Method**
This study adopted a descriptive survey design. The study was conducted in Delta State. A sample of 180 respondents was purposively selected from the entire population of
1819 OTM students in the three public owned polytechnics in Delta State. A structured and validated questionnaire containing 15 items on a 4-point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly disagree (SD) was used for data collection. Face validity of the instrument was determined by two experts; one in the Department of Business Education and the other from Educational Technology all from Nnamdi Azikiwe University, Awka. A pilot test was conducted to establish the reliability of the instrument by administering it to 20 OTM students in Federal Polytechnic Oko, Anambra State who were not part of the study and the data collected were analysed using Cronbach alpha to obtain reliability coefficients of 0.77, 0.83 and 0.91 with an overall reliability of 0.84 for the three clusters of the instrument. The researcher administered the instrument to the subjects with the help of three research assistants. Mean and standard deviation were used to answer the research questions and determine the homogeneity or otherwise of the respondents' views. Decisions on the research questions were based on the grand mean in relations to the real limits of numbers. Therefore, items with mean ratings of 1.00 - 1.49 are rated Strongly Disagree, those with 1.50 - 2.49 are Disagree, items with mean ratings of 2.50 - 3.49 are rated Agree and those with 3.50 - 4.00 are rated Strongly Agree. T-test was used to test the null hypotheses at 0.05 level of significance. A hypothesis was accepted where the p-value is equal to or greater than the alpha level of 0.05 (p > 0.05), at a degree of freedom; otherwise, the null hypothesis was rejected. The analysis was carried out using SPSS version 23.0.

**Results**

**Research Question 1:** What are the computer constraints of writing CBT on OTM courses as perceived by students in Delta State?

**Table 1**

**Respondents’ mean ratings on computer constraints of writing CBT on OTM courses**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Computer constraints</th>
<th>( \bar{X} )</th>
<th>SD</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shortage of functional computers</td>
<td>3.79</td>
<td>0.32</td>
<td>SA</td>
</tr>
<tr>
<td>2</td>
<td>Poor broadband width for computers in the polytechnic</td>
<td>3.02</td>
<td>0.61</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>Slow intranet services from the polytechnic main server</td>
<td>2.84</td>
<td>0.27</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>Unstable biometric capturing of students’ identity</td>
<td>2.66</td>
<td>0.54</td>
<td>A</td>
</tr>
<tr>
<td>5</td>
<td>Programmed computer time for CBT is too short</td>
<td>3.91</td>
<td>0.77</td>
<td>SA</td>
</tr>
<tr>
<td></td>
<td><strong>Cluster Mean</strong></td>
<td><strong>3.24</strong></td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

Data in Table 1 show that respondents agreed that three (items 2, 3 and 4) with mean ratings ranging from 2.66 to 3.02 are computer constraints of writing CBT on OTM courses while the remaining two (items 1 and 5) with mean ratings of 3.79 and 3.91 were strongly agreed by respondents. The cluster mean score of 3.24 means that OTM students agree that there are computer constraints of writing CBT on OTM courses in polytechnics in Delta State. The standard deviations for all the items are within the same range showing that the respondents are not wide apart in their ratings.

**Research Question 2:** What are the administrative constraints of writing CBT on OTM courses as perceived by students in Delta State?

**Table 2**

**Respondents’ mean ratings on administrative constraints of writing CBT on OTM courses**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Administrative constraints</th>
<th>( \bar{X} )</th>
<th>SD</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Lack of ICT experts to solve technical issues in CBT centres</td>
<td>3.73</td>
<td>0.74</td>
<td>SA</td>
</tr>
<tr>
<td>7</td>
<td>Non-provision of reliable power supply in CBT centres</td>
<td>3.89</td>
<td>0.26</td>
<td>SA</td>
</tr>
</tbody>
</table>
Data in Table 2 show that respondents strongly agreed that all the items raised with mean ratings ranging from 3.58 to 3.89 are administrative constraints of writing CBT on OTM courses. The cluster mean score of 3.72 means that OTM students strongly agree that there are administrative constraints of writing CBT on OTM courses in polytechnics in Delta State. Standard deviations for all the items are within the same range which shows that the respondents were homogeneous in their opinions.

**Research Question 3:** What are the personal constraints of writing CBT on OTM courses as perceived by students in Delta State?

**Table 3**

Respondents’ mean ratings on personal constraints of writing CBT on OTM courses

<table>
<thead>
<tr>
<th>S/N</th>
<th>Personal constraints</th>
<th>X</th>
<th>SD</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Students are not comfortable sitting for CBT</td>
<td>2.96</td>
<td>0.28</td>
<td>A</td>
</tr>
<tr>
<td>12</td>
<td>Students are not computer literate enough for CBT</td>
<td>3.01</td>
<td>0.43</td>
<td>A</td>
</tr>
<tr>
<td>13</td>
<td>Students have technophobia for CBT</td>
<td>2.80</td>
<td>0.19</td>
<td>A</td>
</tr>
<tr>
<td>14</td>
<td>Students have computer anxiety for CBT</td>
<td>3.37</td>
<td>0.52</td>
<td>A</td>
</tr>
<tr>
<td>15</td>
<td>Students are not able to finish CBT on time</td>
<td>3.59</td>
<td>0.34</td>
<td>SA</td>
</tr>
</tbody>
</table>

Cluster Mean: 3.15 PT

Data in Table 3 shows that respondents agreed that four (items 11, 12, 13 and 14) with mean ratings ranging from 2.80 to 3.37 are personal constraints of writing CBT on OTM courses while the remaining one (item 15) with a mean rating of 3.59 was strongly agreed by respondents. The cluster mean score of 3.15 means that OTM students agree that there are personal constraints of writing CBT on OTM courses in Delta State. The standard deviations for all the items are within the same range showing that the respondents are not wide apart in their ratings.

**Hypothesis 1:** OND and HND students do not differ significantly in their mean ratings on the computer constraints of writing CBT on OTM courses in Delta State.

**Table 4**

t-test summary of respondents’ mean ratings on the computer constraints of writing CBT on OTM courses (OND = 100; HND = 80)

<table>
<thead>
<tr>
<th>S/N</th>
<th>Computer constraints</th>
<th>X1</th>
<th>SD1</th>
<th>X2</th>
<th>SD2</th>
<th>Df</th>
<th>t-cal</th>
<th>Sig.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shortage of functional computers</td>
<td>3.13</td>
<td>.52</td>
<td>2.74</td>
<td>.76</td>
<td>178</td>
<td>.94</td>
<td>.27</td>
<td>NS</td>
</tr>
<tr>
<td>2</td>
<td>Poor broadband width for computers in the polytechnics</td>
<td>2.63</td>
<td>.37</td>
<td>2.97</td>
<td>.53</td>
<td>178</td>
<td>1.02</td>
<td>.38</td>
<td>NS</td>
</tr>
<tr>
<td>3</td>
<td>Slow intranet services from the polytechnic main server</td>
<td>2.72</td>
<td>.16</td>
<td>3.06</td>
<td>.27</td>
<td>178</td>
<td>1.41</td>
<td>.41</td>
<td>NS</td>
</tr>
<tr>
<td>4</td>
<td>Unstable biometric capturing of students’ identity</td>
<td>2.94</td>
<td>.41</td>
<td>3.11</td>
<td>.35</td>
<td>178</td>
<td>3.22</td>
<td>.00</td>
<td>S</td>
</tr>
<tr>
<td>5</td>
<td>Programmed computer time for CBT is too short</td>
<td>3.29</td>
<td>.28</td>
<td>2.75</td>
<td>.42</td>
<td>178</td>
<td>.86</td>
<td>.22</td>
<td>NS</td>
</tr>
</tbody>
</table>
Data in Table 4 present the summary of mean ratings of OTM students on the computer constraints of writing CBT on OTM courses in polytechnics in Delta State. The data revealed that one item with p-value of .00 less than the significant value of 0.05 at 178 degree of freedom. This indicates that there is significant difference in the mean ratings of OND and HND students. Therefore, the hypothesis of no significant difference in the mean ratings of the respondents on item 4 was rejected. On the other hand, hypothesis of no significant difference for items 1, 2, 3 and 5 was accepted since the Sig values of these items, ranging from .22 to .41 are greater than 0.05. Therefore, the null hypothesis of no significant difference in the mean ratings of respondents on the computer constraints of writing CBT on OTM courses was accepted. On the whole, OND and HND students do not differ significantly in their mean ratings on the computer constraints of writing CBT on OTM courses in polytechnics in Delta State.

**Hypothesis 2**: OND and HND students do not differ significantly in their mean ratings on the administrative constraints of writing CBT on OTM courses in Delta State.

**Table 5**

### t-test summary of respondents’ mean ratings on the administrative constraints of writing CBT on OTM courses (OND = 100; HND = 80)

<table>
<thead>
<tr>
<th>S/N</th>
<th>Administrative constraints</th>
<th>X₁</th>
<th>SD₁</th>
<th>X₂</th>
<th>SD₂</th>
<th>Df</th>
<th>t-cal</th>
<th>Sig.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Lack of ICT experts to solve technical issues in CBT centres</td>
<td>2.95</td>
<td>.29</td>
<td>3.04</td>
<td>.63</td>
<td>178</td>
<td>1.18</td>
<td>.13</td>
<td>NS</td>
</tr>
<tr>
<td>7</td>
<td>Non-provision of reliable power supply in CBT centres</td>
<td>3.81</td>
<td>.25</td>
<td>2.53</td>
<td>.24</td>
<td>178</td>
<td>.52</td>
<td>.19</td>
<td>NS</td>
</tr>
<tr>
<td>8</td>
<td>Non-provision of generators in CBT centres</td>
<td>3.16</td>
<td>.32</td>
<td>2.71</td>
<td>.15</td>
<td>178</td>
<td>.98</td>
<td>.22</td>
<td>NS</td>
</tr>
<tr>
<td>9</td>
<td>Provision of unconducive CBT centres</td>
<td>3.04</td>
<td>.45</td>
<td>3.02</td>
<td>.43</td>
<td>178</td>
<td>.62</td>
<td>.35</td>
<td>NS</td>
</tr>
<tr>
<td>10</td>
<td>Presence of unfriendly invigilators in CBT centres</td>
<td>2.73</td>
<td>.64</td>
<td>2.94</td>
<td>.25</td>
<td>178</td>
<td>.72</td>
<td>.08</td>
<td>NS</td>
</tr>
</tbody>
</table>

Data in Table 5 presents the summary of mean ratings of OTM students on the administrative constraints of writing CBT on OTM courses in Delta State. The data revealed that hypothesis of no significant difference for items 6, 7, 8, 9 and 10 was accepted since the Sig values of these items, ranging from .08 to .35 are greater than 0.05. Therefore, the null hypothesis of no significant difference in the mean ratings of respondents on the administrative constraints of writing CBT on OTM courses was accepted. On the whole, OND and HND students do not differ significantly in their mean ratings on the administrative constraints of writing CBT on OTM courses in polytechnics in Delta State.

**Hypothesis 3**: OND and HND students do not differ significantly in their mean ratings on the personal constraints of writing CBT on OTM courses in Delta State.

**Table 6**

### t-test summary of respondents’ mean ratings on the personal constraints of writing CBT on OTM courses (OND = 100; HND = 80)

<table>
<thead>
<tr>
<th>S/N</th>
<th>Personal constraints</th>
<th>X₁</th>
<th>SD₁</th>
<th>X₂</th>
<th>SD₂</th>
<th>Df</th>
<th>t-cal</th>
<th>Sig.</th>
<th>Remarks</th>
</tr>
</thead>
</table>

Key: $X_1$ = Mean of OND respondents; $X_2$ = Mean of HND respondents; $SD_1$ = Standard Deviation of OND respondents; $SD_2$ = Standard Deviation of HND respondents; Sig. = probability value (2 tailed); $t$-cal = calculated values; $S$ = significant; NS = Not Significant.
Data in Table 6 present the summary of mean ratings of OTM students on the personal constraints of writing CBT on OTM courses in polytechnics in Delta State. The data revealed that hypothesis of no significant difference for items 11, 12, 13, 14 and 15 was accepted since the Sig values of these items, ranging from .11 to .45 are greater than 0.05. Therefore, the null hypothesis of no significant difference in the mean ratings of respondents on the personal constraints of writing CBT on OTM courses was accepted. On the whole, OND and HND students do not differ significantly in their mean ratings on the personal constraints of writing CBT on OTM courses in polytechnics in Delta State.

**Discussion of findings**

Findings of the study revealed that OTM students agreed that there are computer, administrative and personnel constraints of writing CBT on OTM courses in polytechnics in Delta State. This result is consistent with that of Alabi, Issa and Oyekunle (2012) and Nkwocha, Akanwa and Nkwocha (2015) which reported that network problems, erratic power supply and inadequate skills in computer usage were identified as major challenges militating against effective use of CBT by students. In the same vein, Sanni and Mohammad (2015) reported that poor ICTs killed among students, dearth of adequate facilities at the examination centres and incapability of invigilators to give technical assistance to students due to their low capacity development are constraints of writing CBT.

In addition, the study revealed that OTM students in OND and HND level has no significant difference in their mean ratings on the computer, administrative and personnel constraints of writing CBT on OTM courses in polytechnics in Delta State. This implies that the constraints of writing CBT on OTM courses cut across all level of OTM students in the polytechnics. This finding is in consonance with Abubakar and Adebayo (2014), Khaleel (2017) and Rostaminez had (2018) who reported that lack of ICT infrastructure, frequent break down of computer hardware and software, lack of time as computer-based examination increase the response time compared to paper-based were students’ challenges when writing CBT. The non-significance of OND and HND students on computer, administrative and personal constraints of writing CBT on OTM courses in polytechnics in Delta State is in agreement with the study of Fehintola (2018) who discovered students perceived that poor lightning of CBT halls, bad location of some CBT centres, unfriendly attitude of examination supervisors and invigilators to the testees in CBT centres were constraints of writing CBT in educational institutions.

**Conclusion**

The traditional pen and paper examination has become less relevant to the growing demands for ICT oriented workforce. Office Technology and Management (OTM) courses will add value to the credentials of their students if they are frequently assessed on ICT platforms for smooth transition into the 21st century requirements of the paperless office. Based on the findings of the study, the researcher concluded that OTM educators must actively use...
ICT in their day to day classroom activities to enable their students acquire a wide range of e-assessment skills to manage the immediate constraints of writing CBT in polytechnics.

**Recommendations**

Based on the findings and conclusion of this study, the following recommendations were made:

1. Management of polytechnics should see to the provision of functional desktops and laptops with reliable internet connection to facilitate the use of computer based examination across all schools and programmes of polytechnics in Delta State.
2. Certified and qualified ICT developers and experts should be employed in polytechnics to manage all ICT facilities and provide technical assistance to students in the course of writing CBT when there are cases of computer or internet trouble shooting in the centres.
3. Students should be oriented and encouraged to practice computer based assessment techniques in their continuous assessment in order to get familiarize with CBT in polytechnics.
References


Obioma, G., Junaidu, I., & Ajagun, G. (2013). The Automation of Educational Assessment in Nigeria: Challenges and Implications for Pre-service Teacher Education. A paper presented at the 39th Annual Conference of the International Association for Educational Assessment (IAEA), Tel-Aviv, Israel, from 20th–25th October


