

# Prospect of Using Computer Based Test as Effective Tool for Conduct of Examination in Nigerian Institutions

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## Abstract

Computer based testing (CBT) serve as a proper way of conducting examination for educational institutions in adopting a suitable way for assessing students' knowledge nowadays, in this paper we presented the importance of using information and communication technology (ICT) in the conduct of examination at Katsina State Institute of Technology and Management (KSITM), to have a brief overview of how examinations are conducted in the institute using Paper Based Testing (PBT) and proposed the use of CBT as an ICT tool to be used in the conduct of semester examinations. The study was qualitative, an interview was used to collect data guided by the objectives of the study, A total of 18 staff and students participated. Based on the result gathered in this research, it was revealed that PBT is still a strong method in administering of examination even though with the challenges highlighted in the research which makes CBT a right step in the right direction of conducting examinations in the institute.

**Keywords:** Paper Based Test, Computer-Based Test, ICT, Nigerian Institution

## INTRODUCTION

Information and Communication Technology (ICT) has become, within a very short time, one of the basic building blocks of modern society. Many countries now regard understanding it and mastering its basic skills and concepts as very crucial in education. This is because it adds value to the processes of learning and to the organization and administration of learning institutions. Thus, ICT focuses specifically on the application of these new technologies

in an educational context and environment, and serves as a tool for supporting the various components of education. Such components include, among others, teaching and learning, resources management (human, material, financial resources) and admission and examination processes also known as learning assessment. One specific form of ICT for assessment is the Computer-Based Testing (CBT), also known as Computer-Based Assessment or e-exam (Abubakar and Adebayo, 2014).

Computer-Based Testing (CBT) is a method of administering tests in which the responses are electronically recorded, assessed, or both. It is a form of assessment and evaluation in which questions are delivered to students on a computer screen based on the subject picked by the students. The computer is an integral part of question papers' delivery, response storage, marking of response or reporting of results from a test or exercise. The questions are usually delivered in multiple choice formats consisting of options in which only one serves as the answer to the displayed question which provides an easy to use environment for both Test Conductors and Students appearing for Examination. The main objective of a CBTS is to provide the same features that a traditional Examination System must have coupled with an interface that is easy to use by the user (Ajinaja, 2017).

However, the advancement of ICTs has called for the shift from a paper based to a CBT of examination, because the paper-based examination system is resource and time consuming. Moreover, examination process in Nigeria is marred with problems which is due to phenomenon of examination malpractice that has become endemic in the educational system. This include massive examination leakages, demand for gratification by teachers, bribe-taking by supervisors and invigilators of examinations and racism by teachers have become a global phenomenon (Ndume et al., 2014). Furthermore (Jia, Q. et al., 2011) noted that the current paper-based examination process is cumbersome, tedious and inefficient

because it requires more time and resources in preparing the examination papers, printing the papers, organizing the examination, and carrying out the checking and grading.

In this study, we proposed and also suggested the need for use of Computer Base Test system to address the issue of malpractice and incompetence in admitting new students into the institutions of higher learning by introducing CBT entrance test and CBT examination in some of the courses adopted in the institute.

### **Concept of Examination Assessment**

The evaluation of the understanding of the knowledge of a person is what is simply termed as examination. Assessment can be done in the form of a formal test. The exam is taken to check the knowledge of a student of a particular subject. However, exam includes variety of questions like objective, subjective, one word, etc. each question in the exam is assigned with marks according to the level of knowledge it requires. While students are required to answer the questions asked and marks are given based on the quality of answers given. Different exams are being conducted at different levels, the exams conducted in schools and colleges test student's knowledge of all the subjects being taught, schools and colleges conduct entrance exams to give admission to the institute based on knowledge.

Moreover, assessment is central to the practice of education. For students, good performance on 'high-stakes' assessment gives access to further

educational opportunities and employment. For teachers and schools, it provides evidence of E-ISSN 2039-2117 ISSN 2039-9340 Mediterranean Journal of Social Sciences MCSER Publishing, Rome-Italy Vol 5 No 2 January 2014 49 success as individuals and institutions. Assessment systems provide the ways to measure individual and institutional success, and so can have a profound driving influence on systems they were designed to serve (Jim and Sean, 2004). The predominant mode of student's assessment in Nigeria is the traditional method. Students are assessed using paper and pen on cognitive abilities in the above method. This method of assessment has imposed serious limitations to the effectiveness of the method. E-examination can be used to assess cognitive and practical abilities. Cognitive abilities are assessed using e-testing software; practical abilities are assessed using e-portfolios or simulation software. Presently, the traditional method in Nigeria is characterized by different form of examination malpractices such as bringing in unauthorized materials, writing on currency notes and identity cards, spying of other candidates in examination hall, substitution of answer sheets and change of examination scores or grades. Others include, impersonation, leakage of questions to students before the examination, conniving with supervisors and school authorities to cheat, body writing or tattoo in which students especially females write on hidden parts of their bodies (see Fagbemi 2001 cited by Olatoye n.d.). Alabi, Issa and Oyekunle (2012) corroborated this by identifying the

PPT with many problems such as: Tedious processes as the examination was conducted at various and distant centers simultaneously and marked manually; high risks of accidents during travels by both the staff involved and the prospective students for the paper examination; cost of conduct of the examination on the part of the examination bodies including honor-aria for invigilators, coordinators, markers collators and other allied staff; subjective scoring and plausible manipulation of results; late release of results and missing grades; bank draft method of payment by candidates riddled by fraud, loss of money, stress and trauma (Abubakar and Adebayo, 2014).

### **Overview of Computer Based Testing System (CBTS)**

The CBT software developed using Component-based software engineering (CBSE). CBSE emerged in the late 1990s as an approach to software systems development based on reusing software components. CBSE has a central computer which serves as the server (supplier and storing of questions). Teachers upload student information and questions with corresponding answers into the system. The student walks into the Computer hall, picks a computer, enters the required his/her login information and begins his/her examinations. The time starts counting down immediately after logging in and logs off immediately at 0.00s. A supervisor is in position to prevent students from beating the system. Skilled Computer students can/will always beat any system no matter the security put in place. The solution to

this problem is to regularly update the software as flaws or errors are detected. The questions appear randomly for each student and no two questions are alike. Immediately after ending the examination, the result is displayed showing the number of wrong and right results (Ajinaja, 2017). However, the use of CBT for entrance examinations in education, military training, and certification examinations by professional groups and promotional examinations in various stages and categories of life cannot be overemphasized. Erle, et al. (2006) cited by Olumorin et al. (2013) noted that CBT has gained popularity as a means of testing with largescale professional examinations such as the United States Medical Licensing Examination (USMLE) in 1999. Furthermore, the popularity emerged through the post UME and University main examinations in Nigeria. Other institutions that such as the University of Ilorin, Federal University of Technology, Minna are maximizing the use of CBT as tool for undergraduate and postgraduate assessments.

### LITERATURE REVIEW

Computer Based Testing (CBT) have a number of important advantages compared to Paper & Pencil (P&P) Testing such as efficiency, immediate scoring and feedback in the case of multiple-choice question exams. Furthermore, CBT allow more innovative and authentic assessments due to more advanced technological capacities. Examples are the use of video clips and slide shows to assess medical students in surgery or the use of computer based case simulations to

assess social skills. However, there are also drawbacks when administering CBT such as the additional need for adequate facilities, test-security, back-up procedures in case of technological failure, and time for staff and students to get acquainted with new technology. Notwithstanding, Computer and related technologies provide powerful tools to meet the new challenges of designing and implementing assessments methods that go beyond the conventional practices and facilitate to record a broader repertoire of cognitive skills and knowledge (Ejim, 2017)

Dr. M. O. Onyesolu, et al (2017) in their paper Design and implementation of JAMB Computer-Based Test System with Voice Command, proposed a system for students with disabilities for use in JAMB examination and applied Object oriented analysis and design methodology (OOADM) was adopted in the study. Microsoft Visual Basic.NET was used to implement the system with supported MySQL database, a free distributed database engine. The system is a desktop application based on behavior and states of objects. The system reads onscreen questions to candidates, using the earpiece and allows candidates most especially the physically challenged to make input or control the system using voice.

According to (Suryadi and Ramawati, 2018) CBT implementation in national assessment for non-formal education is facing some challenges in facilities in relation to technical problems, students' competences in computer

skills, and stakeholders' engagement. However, the policy has provided opportunities in non-formal education quality in improvement of assessment system, students and teachers competences, and non-formal education database system. Therefore, it needs improvement for further implementation for all non-formal education institutions throughout the nation.

The impact of computer-based test in Nigeria tertiary institutions in this present technological development era has enhanced both the teaching and learning process and makes it easy for the achievement of teachers' set objectives. Teaching is no longer teachers centered as the learner can utilize ICT tools like Computer Assisted Instruction for individualized learning (Daramola, 2019).

Recently, several issues erupted in the educational system of Nigeria prompting the changes in the examination system in the country. Innovation which is one of the major indices of change brought in the drive for the changes to take effect, and this became the trends in many higher institutions of learning in Nigeria. Joint Admission and Matriculation Board (JAMB), the university entrance examination board in 2013 introduced Computer Based Test (CBT) as a way to reduce the percentage of the negative reports received after the JAMB exams (Osugwu et al.,2018). Many tertiary institutions in Nigeria took from this new innovation and continued its internal exams using the CBT system.

(Osugwu et al.,2018) examined the Computer Based Test (CBT) versus the traditional paper pencil test (PPT) as system of examination for students in Imo State Polytechnic. It posits that the (PPT) is fraught with a mirage of problems ranging from late release of results, tedious process of collation, high cost of examination etc. Practical examples were implemented to get the necessary results for this work. Moreover, they also recommend the need for a compulsory computer course for all pupils and students of Nigeria. It concludes that although it may not be used to evaluate student's creativity and critical thinking, CBT remains the way to go, taking into consideration of its advantages.

The influence of Computer Based Test (CBT) on student's academic performance has received little or no attention of researchers but students in Nigerian Universities are now performing better than the era of paper-based test (Oladimeji & Mwuese, 2018). Hence, the study examines CBT as panacea to students' academic performance. Descriptive research design was used for the study and the analysis of data was done with descriptive statistics (mean and standard deviation). The study revealed that though CBT had positive influence on undergraduate students' performance, it is saddled with a lot of challenges such as loss of power failure while writing the exam, loss of network connection, absence of good infrastructural facilities at CBT centers and the insecurity of the questions resulting to leakage which sometimes lowers the test validity. The study recommended that adequate facilities

should be made available, as well as enforcing Government policy on computer education at the primary and secondary school levels to ensure that all students are computer-literate. And also, CBT is a good method of assessment (Oladimeji & Mwuese, 2018).

Application of ICT skills in the conduct of post-UTME and other examinations at the University of Ilorin will be more suitable than using the Pen-and-Paper Testing to the present practice, the study also advocates the widespread adoption of CBT method for the conduct of not just the post-UTME examinations, but also other Institutional-based examinations with large population of students in Nigerian Tertiary institutions owing to the success story of the University of Ilorin. (Alabi et al., 2012).

### **Application of CBT System in Nigeria Examination System**

Computer Based software has come a long way in Nigeria and is more adopted in mass-driven examination. This is to curb time wasting during marking, assessment and provide error free computations and result. A CBT is aimed at providing good execution of examination and evaluation. In 2014 the Joint Admission Matriculation Board (JAMB), the body responsible for admission into University employed the use of electronic examination in conducting her examinations. Some institutions have adopted this means in assessing and evaluating student's performance. Some of the institutions that are fully or partially implementing the CBTS for student's assessment include the following:

- University of Ibadan in conducting Post Graduate Use of English Test Examination
- Obafemi Awolowo University, Ile Ife
- National Open University of Nigeria (NOUN)
- University of Ilorin, Ilorin
- Federal University of Technology, Minna
- Covenant University, Ota (Private)
- University of Nigeria, Nsukka
- University of Lagos, Lagos
- Ahmadu Bello University, Zaria

Despite the impact of computer-based examination in Nigeria tertiary institutions, most institutions in Nigeria are yet to extensively embrace these innovations. Efforts should be geared towards integrating /implementing computer-based examinations in Nigeria tertiary institutions. Problems such as inadequate ICT infrastructure, power supply, students / candidates' inadequate skills in ICT, integrity of examination managers, acceptability, software factors militate against these efforts (Daramola, 2019).

Fagbola T. M. et al (2013) in their paper Computer-Based Test (CBT) System For University Academic Enterprise Examination; they proposed a web-based online examination system to address the drawback of paper and pencil test and some already developed system with the problem of : lack of flexible timing functionality to automatically log-off candidates upon expiration of allotted time, result integrity comprise, stand-alone deployment, lack of flexibility, robustness and scalability as well as human error are major limitations of

the existing platforms. The system is designed to facilitate the examination processes and manage challenges surrounding the conduct of examination, auto-submission, auto-marking and examination result report generation. The programming tools used for the front-end development of the system are Hypertext Markup Language (HTML) and Microsoft Visual Studio 2012 integrated development environment while Microsoft SQL Server 2008 is used as the database backend. The CBT system was evaluated at the Federal University, Oye-Ekiti, Ekiti State prometric centre. Performance assessment was carried out by two-hundred and fifty (250) volunteer users of the CBT system and the average performance scoring indicate that the system scores high in terms of reliability, robustness and flexibility with easy to use graphical user interface. The test proved the validity of using this web-based CBT system to evaluate a large mass of students in various institutions of learning across the globe.

However, observation has revealed that the conduct of post-JAMB screening examinations and other examinations with a large population of students in the university, using the PPT method, was beset with numerous limitations culminating in invalid and unreliable outcomes. To overcome these challenges and forge ahead in an increasing ICT-propelled society, the University of Ilorin commenced the CBT method for its post-JAMB screening exercise in 2008. Since assessment of learning activities is a very important aspect of the

education process, the outcome is employed to take many academic and administrative decisions. Like any new introduction, this also had its own initial challenges especially regarding effective coordination of the exercise taking place in different center locations across the country with a lot of attendant impropriety. Today, the University has got over the teething problems associated with the CBT and had indeed gone ahead to deploy this technology in the conduct of its other examinations including university-wide courses with large population of students of 500 and above. Typical of such courses are the General Studies, medical courses, where multiple-choice questions are used for testing, and courses in other disciplines, up to an appropriate academic level the technique is considered suitable for. Thus, the University of Ilorin has made its mark in this particular regard such that it can boast of using only three centres in Ilorin, Lagos and Minna for its nation-wide post-JAMB screening exercise while the use of CBT for conducting General Studies examinations is today, a common feature. This method, needless to say, represents a great deal of improvement over the former PPT method given the many advantages it came with, which include standardized examination questions, prompt and easy conduct by both the candidates and the concerned staff, elimination of incidence of malpractices, missing results and manipulations. (Alabi et al., 2012).

#### **Benefits of CBT over PBT**

1. Questions are direct: Questions used in CBT examinations

appeared to be very cheap and no negative marking, but the time allocation is very little.

2. No missing of Script: There is no missing script because you're using computer but for P&P missing script is rampant.
3. Environment is controlled: Whatever the geographical location or candidate base is, CBT minimizes all security risks, from item and exam exposure to candidate identity. P&P testing involves the transportation of tests to those involved in their delivery. Each paper copy of a test and each hand-off in the process carry with it a risk that the test may be exposed or leaked. The need to keep track of all printed copies of the test is a significant challenge in P&P testing. CBT eliminates the greatest risk of test exposure of multiple printed copies of the test.
4. Secure test environment: CBT test centers are designed to be both secure and conducive to testing. At CBT test centers, candidates can be screened through a multi-layered process that goes beyond standard ID verification and fingerprinting. Some CBT center check-in procedures, for example, can also combine bio-metric technology to establish candidate identity. Candidate monitoring can also be achieved through invigilation and s CCTV.
5. Consistency: Inconsistencies in the P&P test environment can mean that test results are not

reflective of the true ability of candidates. Consider, for example, the distractions that can be present when taking a test in a large conference hall. Having dedicated CBT test centers with controlled environments ensures a greater consistency in the test environment leading to more reliable results.

6. Innovation: CBT opens up an examination to its full potential as a valid, reliable and efficient assessment tool.

### **Challenges of CBT in Northern Nigeria**

Daramola, 2019 observed that for computer-based examinations to succeed in Nigeria, public school ownership and individuals are called upon to investigate the problems of power supply, inadequate ICT facilities, student ICT skills and acceptability, as such will go a long way to make teaching and learning more interesting, stimulating, admiring and efficient as well as improving Nigerian education standard through the proper use of ICT tools for computer-based examinations.

However, the above observed problems are also the set of problems faced in the northern part of Nigeria with some additional issues such as; Integrity of examination managers, software factors, poor ICT funding and gender equity. In addition to the above, below are some other challenges

1. Inadequate ICT infrastructure and manpower/skills:



Explained by (Abubakar and Adebayo, 2014). Nigeria does not only lack information infrastructure, it also lacked the human skills and knowledge to fully integrate ICT into secondary school education. There is acute shortage of trained personnel in application software, operating systems, network administration and local technicians to service and repair computer facilities. Most of the school teachers lack the skills to fully utilize ICT in curriculum implementation hence, the traditional chalk and duster approach still dominates in secondary school pedagogy. Information transfer using ICT is minimal or non-existence in the Nigerian schools most especially the northern schools. Inadequate ICT infrastructure including hardware, software and bandwidth accessibility. (Obioma et al. 2013; cited by Abubakar and Adebayo, 2014) observed that much of the infrastructures for automated examinations are either obsolete or overstretched in terms of capacity, accessibility, reliability and security. Again, the absence of internet facilities in our rural areas requires students travelling long distances to urban centres to have access to internet. Broadband penetration needs to be fast-tracked to reduce the cost of internet bandwidth access in Nigeria.

2. Power failure: The lack of electric power and telecommunications

infrastructure in a considerable part of the country is a problem. Mobile telecommunication currently covers 60% of the national territory, but mobile telephone companies generally power their base stations using private electric power generators since the Power Holding Company of Nigeria (PHCN) is unable to guarantee supply of power. This phenomenon is prevalent nationwide and constitutes the bottleneck to effective countrywide deployment of ICT in education (Osei, 2007; cited by Abubakar and Adebayo, 2014).

3. Students / candidates inadequate skills in ICT: Onyibe et. al., 2015 observed that many school leavers in the country are not computer literate. Even many teachers in the primary and secondary schools cannot boot a computer not to talk of using any application. With these 'analogue' teachers to impart ICT skills to students, definitely the students cannot be adequately equipped for CBT. And this anxiety explains why the resistance to JAMB's full use of CBT in 2015 UTME by students, parents and even teachers. Nigeria does not only lack ICT infrastructure, it also lacked the human skills and knowledge to fully integrate ICT into secondary school education (Ilesanmi & Lasisi, 2015).
4. Acceptability: There are series of reasons different

stakeholders are kicking against automation of examination in Nigeria. Dreher et al. (2011) cited in Obioma et al. (2013) observed that for teachers and educators, job-roles and control are major reasons for resisting automated assessment. They argued that since automated assessments are likely to facilitate a more independent approach to learning for students, teachers who see themselves as “expert that translate knowledge in the classroom” are challenged and consequently resist its uptake in their classroom practices. For school proprietors and other education services providers, economic factor may be the reason for resisting the uptake of CBT. Ilesanmi & Lasisi (2015) noted that ICT has remained a low financial priority in most educational systems in Africa. To conserve fund that would be used to acquire computers, internet facilities and other needed infrastructure, some school proprietors may want to evade the positive change CBT has brought to our educational system. For candidates and students, poor ICT skills could be the only genuine reason for not embracing CBT in this era (Onyibe et. al., 2015).

5. Integrity of examination managers: Outside tertiary institutions ICT centers, other CBT centers in Nigeria are privately owned cyber-café. One of the key reasons advanced for migrating from

PPT to CBT is to curb the rampant cases of examination malpractices in the country, the integrity of these businessmen in adhering to the laid down procedure for bio-metric data capturing during registration and verification during examination cannot be guaranteed. Experience in SSCE examination has shown that most of the privately-owned schools are for pure economic gains leading to all sorts of examination malpractices. These exam ‘miracle’ centres syndrome may be transferred to CBT centers if urgent measures are not taken (Onyibe et. al., 2015).

6. Poor ICT funding: E-learning and ICT application to education in general may come of age in Nigerian schools. Schools in Nigeria are not given adequate funds to provide furniture, requisite books, laboratories and adequate classrooms let alone being given adequate funds for high-tech equipment (computers) and Internet connectivity (Aduwa Ogiegbaen & Iyamu, 2005). Many of the lecturers in these public institutions have to go to commercial cyber cafés before they can have access to a computer. The private universities are better off since majority of them, such as the ABTI American University of Nigeria (AAUN) has 24-hours Internet connectivity on campus, and each student is provided a laptop with the cost

factored into the fee structure (Osei, 2007; cited by Abubakar and Adebayo, 2014). The Nigerian Federal Government's 1988 policy introduced computer education to the high schools (Okebukola, 1997; cited by Adomi and Kpangban, 2010). The only way this policy was implemented was the distribution of computers to federal government high schools, which were never used for computer education of the students (Abubakar and Adebayo, 2014). No effort was made to distribute computer to state government or public schools.

7. **Software factors:** Currently, there is no software or multimedia that has universal application as far as CBT is concerned. School curriculum and education standard differ from one country to the other. Fluck et al. (2009) observed that assessment of student knowledge and skills within a web browser window or delivered by bespoke assessment software (specifically crafted for a particular set of questions) provides a restricted environment which prevents the demonstration of abilities associated with the use of specialist software or a combination of applications. Again, a corrupt software or network failure can cause rescheduling of the examinations (Onyibe et. al., 2015).

8. **Gender equity:** Nigeria is confronted with a persistent problem in girls' education, principally in the northern and rural areas, because of traditional beliefs and roles reserved for girls in the family and religious set-ups. This has prompted government to embrace gender equity programs in education. However, school enrollment disparities still exist in the rural and northern areas (Osei, 2007). Due to the above-mentioned traditional beliefs, girl child education of ICT doesn't consider an important education or skill that need to be acquired better tomorrow.

### **CBT Administration Model**

The most important decision made by a CBT designer is the choice of the test administration model, which controls the items with which a student is presented and the order in which they are presented.

The administration model strongly impacts the entire benefit discussed above. Three distinct test administration models are described below (Ejim, 2017).

#### **A. Linear or fixed form**

The simplest type of CBT which essentially replicates the administration model of conventional paper tests. Each student is presented with the same set of items, either in the same order or in a randomly scrambled order. Fixed form CBTs are constructed and scored like conventional tests as well, with scores computed

either by totaling the number of correct answers or through item response theory (IRT) methods (Ejim, 2017).

#### B. Random form

Under this model, each student is presented with a set of items drawn from a pool containing more items than necessary to construct a single test form. Items are usually drawn from the pool to satisfy specified substantive or statistical rules. These rules are imposed to ensure that the different forms drawn for different students each measure the same content and are parallel in difficulty and reliability. Although test scores can be computed by totaling the number of correct answers, IRT methods may be preferred (Ejim, 2017).

#### C. Adaptive form

Here the computer selects the range of questions based on individuals' performance level.

These questions are taken from a very large pool of possible questions categorized by content and difficulty (Ajinaja, 2017).

### Methodology

The Methodology adopted for this research is qualitative data collection which is done at Katsina State Institute of Technology and Management (KSITM), it is a Government Institute established in Late 2014 offering Information Technology and Management courses. The selection of the Institute as a case study is as a result of one of the authors is a staff of the Institute. The authors examine the current process of the Institute examination is paper based. The Data collection method used is Interview with some of the Students and Staff of the Institute between January and March 2020. The figure 1 below shows a process flow diagram of the administration of CBT

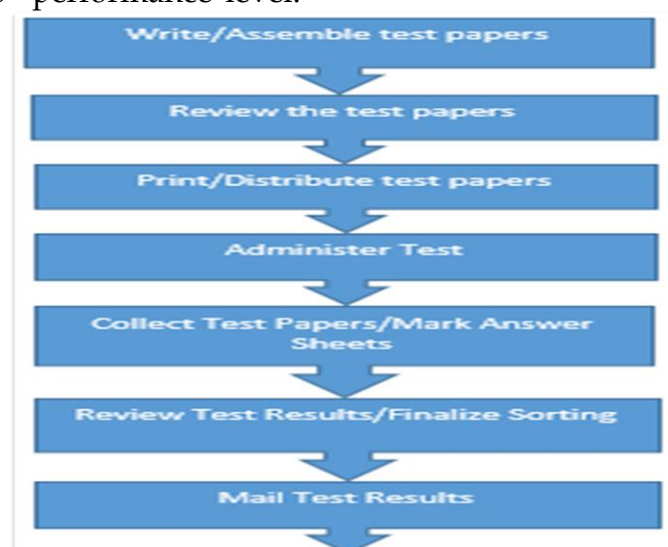


Figure 1: Program Flow Diagram showing the Administration of CBT (Ejim, 2017)

Random sampling technique was used to select a sample of 5 staff and 15 students of KSITM. The researchers

designed interview questions used to collect relevant data. The interview

was administered by the researchers through direct administration.

The working process of the existing system is given below (Ndume et al.,2014).

1. Lecturer setting examination and Submission to Assessment Center

Lecturer setting of the examination questions and Examination Center (AC) review is the first process after 12-14 weeks of teaching, lecturer has to set examination questions and submit it to the AC through their respective examination officers (EO), the AC reviews the questions by inviting resource people namely External Moderators (EM) from outside the Institute, the EM's make modifications and suggestions where the need arises. The AC sends the questions back to the EO for the lecturers to effect the changes. From there, the EO which are members of the AC and other members of the AC are responsible for printing the question papers and setting the materials for examination, whereby each and every examination to be conducted, the examination materials are dispatched from the AC and returned back to the AC after completion of the examination.

2. Student Attendance

At the end of the teaching weeks, student's attendance needs to be calculated for each course, students with less than 75% attendance will not be allowed to sit for the course

exam and they will be notified on the notice board.

3. Conduct of the Examination

All students that are eligible to seat for an examination will go to examination hall following the examination timetable and sit waiting for the start time of the examination, question papers, answer sheets and attendance sheets are to be provided to the students. Students start the examination at a specified time. After the examination, papers are collected and returned back to the AC.

4. Conference marking

Marking of examinations are set to be done collectively within a specified time of marking, AC provide answer booklets of the students to the respective course tutor for marking, after the completion of marking, AC are to still call back the EM's for moderation of result. After some weeks of moderation students get their result as regard to the examination in which some of them feels they have not been graded fairly.

The result of the interview after analysis shows that majority of staff find examination process tedious and time consuming and that leads to examination malpractice and the students feels that they are not graded fairly. Therefore, the authors proposed a new process of examination called Computer Based Test (CBT) to remedy the shortcoming of existing Paper Based Testing (PBT) process.

### Prospects of CBT in the Conduct of Examination in Higher Institutions

CBT have advantages over PPT testing, both for states that run the assessment programs and for the students who participate in them. These advantages are recognized by the U.S. Department of Education, which is one of its major initiatives (Race to the Top Assessment Program), encouraged the development of CBT (Thurlow et al., 2010). However, advocates of CBT have identified many positive prospects of this approach to assessment as follows:

- i. More efficient than paper-based tests
- ii. Flexible scheduling
- iii. Individualized testing environment
- iv. Faster score reporting, within limited time of testing
- v. Immediate viewing of scores on screen
- vi. Convenient for larger Institution community
- vii. Ability to access all tests that are demanded by students and the management
- viii. Worldwide testing opportunities for distance and traveling students
- ix. Local and centralized registration and billing systems

### CONCLUSION

In this paper we have described some of the benefits of computer based test over traditional paper test. While paper-based exams may be the norm in some tertiary institutions, but adopting the idea of computer-based

exams is a right step in the right direction. Due to the fact that there are a lot of challenges encountered in traditional examination method which includes examination malpractices, shortage of examination venues, inadequate invigilators, inadequate examination materials, results omission and human error(s) during marking or grading process will all be automatically eliminated. The cost implications in conducting examination will significantly be reduced because there will be no need of printed questions or answer booklets anymore.

Nigerian universities should involve private organizations as partners in progress to finance CBT in education. Hence, staff and students in these universities need adequate competencies in computer skills as best practice experiences revealed some level of success after initial challenges. Also, government policy on computer education at the primary and secondary school levels should be reinforced to make all students computer literate.

Furthermore, the institution (KSITM) is recommended to adopt the use of CBT system as a method for assessing course examinations and as a tool for admitting/screening new students for entrance into the institution. There is also a need for use of CBT to address the issue of malpractice and incompetence in admitting students into the institute. However, this will not only reduce malpractices but would ensure prompt or timely release of examination results.

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