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**PERSPECTIVES OF STUDENTS OF NATIONAL OPEN UNIVERSITY OF NIGERIA
(NOUN) TOWARDS CBT AND PEN ON PAPER EXAMINATION IN THREE
SELECTED CENTRES IN NIGERIA.**

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TOWARDS CBT AND PEN ON PAPER EXAMINATION IN THREE SELECTED CENTRES IN
NIGERIA.**

ABSTRACT

This research paper investigates the perspectives of students' of National Open University of Nigeria (NOUN) towards computer and pen-on-paper examination. Questionnaires were used to generate data. The data collected targeted students of three selected Study Centre .300 questionnaires which consist of 200-400 level of students of the three selected study Centre were administered .Response rate of 240 out of 300 representing 80% of the total questionnaires obtained for data analysis. The result showed that a significant percentage of the respondents were either doing good or fairly good academically. The students' performances measured in each question type. When comparing students' familiarity with the use of CBT versus pen-on-paper examination among three selected Centre, the end result showed that 80.5% of students from Osogbo Study Centre agreed on the familiarity with the CBT examination while 16.5% disagreed. From Ibadan Study Centre, 83.5% agreed with the familiarity with CBT examination, while 16.5% disagreed. From Abeokuta Study Centre. 76.7% agreed with the familiarity on CBT examination while 23.3% disagreed. On comparative survey statistic of respondents, it shows clearly that 73.2% of respondent from Osogbo Study Centre strongly agreed on the use of CBT examination while 26.8% strongly disagreed. From Ibadan Study Centre 76.5% strongly agreed on CBT examination while 23.5% strongly disagreed. From Abeokuta Study Centre, 86.3% performed very well on CBT examination while 43.8% performed well on CBT examination. Recommendation is hereby directed to the management and examination board to improve the condition of conducting CBT and pen-on-paper examination in academic context and universities as a whole.

Keywords: Pen-on-paper exams, CBT exams, Osobgo Study Centre, Ibadan Study Centre, Abeokuta Study Centre, National Open University of Nigeria (NOUN), Perspective, Students

Introduction

The National Open University of Nigeria (NOUN) is a distance learning (ODL) institution established in July, 1983 by President Usman Aliyu Shagari – the first executive president of Nigeria and the University founding President. President Shagari envisions a university with the capacity to admit and satisfy the education and skill needs of Nigerians no matter their status or circumstances. Driving this vision was depend on knowledgeable citizens. President Chief Olusegun Obasanjo resuscitated National Open University of Nigeria (NOUN) in 2002 following a 19 years suspension of operation. CBT examinations are latest technique of conducting examination through the internet. Rehmani (2013) explain that examinations play a significant role in determine what goes on in the classroom in terms of what, and how teachers teach and students learn and can have impact on both teaching and learning. The rapid advancement of Information and Communication Technologies (ICT) in teaching and learning has shifted the paradigm from pen-on-paper to computer based system of examination. Bodmann,S.M, and

Robinson, D.H (2012) contended that Technology based assessment provide opportunities to measure complex form of knowledge and reasoning that is not possible to engage and assess through traditional method.

CBT exams are capable to answer the undying effort of the teachers as well as the moderators are working towards simplification and modernization of the exam techniques. CBT exams are becoming one of the most effective and easy solution for conducting tests to students CBT examination is a great idea and implementation for your institute to be the best part of modern education system. The comfort of studying from home and doing it in one's own space makes the students take up the CBT examination. CBT examinations are highly interactive. Customizable, trustworthy, secure, and can be accessed in multiple devices. The traditional examination system with time consuming conducting and evaluating process, the CBT exam systems offers you the speedy and accurate solution within desired time limit. The assessment is fast, reliable and accurate. Less resource are required in CBT exams as compared to pen-on paper exams. Students can easily access the exams through internet so it reduces need for faculty and staff.

A physical campus, requirement of adequate faculty and study materials, seating arrangements etc. are all mandatory for the traditional method. CBT exams also reduces the printing of tests and other materials required for teaching as well as stationary required to conduct a pen-on- paper exam. However, from students' point of view, examinations have a positive effect on their learning and are 'fair' when they: relate to authentic tasks, represent reasonable demands, encourage students to apply knowledge to realistic contexts, emphasize the need to develop a range of skills, and are perceived to have long- term benefits (Sambell, K, McDowell, & Brown, S.(2014). With Research as also found that students' perception of the mode of examination, based on their former and recent learning experiences affect the quality of their learning outcomes (Segers & Dorchy, 2011). Giving grades for CBT exam is easier than the convention way of examination and is time saving advantage for educators.

In CBT assessment the result is more exact. Recruiter just sends a mail to the candidates for the post and it will be reached to the millions of registered candidates CBT exam provides, flexibility and security for question paper as each student can get random questions of the same exam pattern. It is not possible to set different exam paper for different student and there are chances of leakage of exam paper while passing it to different examination centers. A great advantage of CBT testing is its accessibility to students with disabilities. Computers can be customized to cater for those with various physical disabilities. The physical disable students have limited access to such traditional methods of education and examination. Reaching the campus, writing the papers could be an obstacle for them. Research has also found that students' perception of the mode of examination, based on their former and recent learning experiences affect the quality of their learning outcomes an (Segers & Dorchy, 2011).

However, there are certain issues with the CBT exams; internet connection has always been one of the major drawbacks of CBT exams. Connectivity can be a serious disadvantage of CBT exam. A students internet connection either in a school lab or at home can drop at any time for various reasons. Offline examination on the other hand is one where a student is physically present to undertake the exam. CBT exam have eliminated subjective topic like drawing, diagrams. Whereas one can add all subjective and essay type of question in traditional pen-on-paper exam. CBT test come up with several built-in features designed to prevent cheating like browser lock-down, disables keys like print, screen arrow keys

and ESC, which means that test takers cannot save screen shots of the exam or go back to a previous screen and change their answer. Another key security feature is dual – proctor log in, where the administrator must be logged in first before a test taker can write the test. This prevents students from accessing the test question a head of time, and unfairly preparing for them. Whereas in the traditional exams, cheating could be simpler as there is no other alternatives.

The National Open University as a distance learning institution was established with the capacity to admit and satisfy the education and skill needs of Nigerians no matter their status or circumstances. Driving this vision was the realization that a sustainable democracy, functional economy, happy and prosperous people, all depend on knowledgeable citizens. The problems which based on the perspective of students towards CBT versus pen-on-paper examination required critical assessment of students on some issues such as their performances on CBT and pen – on – paper examination, students familiarity with the use of computer, satisfaction derived from CBT and pen –on – paper examination, quality of both CBT and pen-on-paper examination, CBT examination and pen-on-paper experience and others. Summarily, CBT examination in any given context is high- lighted by the following factors: acceptability by the students. Validity and reliability, compliance with the standard guidelines and comparability with pen-on- paper based exam (POP) and CBT examinations.

Objectives of the study

This study was conducted to achieve the following objectives:-

1. To determine the perspective of NOUN Students of three selected Centre based on familiarity influence with pen-on-paper and CBT examination?
2. To determine the perspective of NOUN Students in three selected Study Centre concerning the comparative among the students on pen-on-paper and CBT examination?
3. To determine the perspective of NOUN Students in three selected Study Centre about their academic performances with pen-on-paper and CBT examination?
4. To determine the perspective of NOUN students in three selected Study Centre about their attitude towards pen-on-paper and CBT examination?
5. To determine the perspective of NOUN students of three selected Study Centre on problem faced by students taken pen-on- paper and CBT examination and the provision of necessary solution.

Research Question

The following research questions were formulated in addressing the problems identified in this study:-

1. What is the perspective of NOUN students in three selected Study Centre about the level of familiarity with both pen-on-paper and CBT examination?
2. What is the perspective of NOUN students in three selected Study Centre about the comparative of students between CBT and pen-on-paper based examination?
3. What is the perspective of NOUN students in three selected Study Centre about their academic performances with CBT and pen-on-paper based examination?
4. What is the perspective of NOUN students in three selected Study Centre about their attitude towards pen-on-paper and CBT examination?

5. What are the helpful solutions to provide in solving problems faced by students taken pen-on-paper and CBT examination?

Review of related work

Boo (2010), in his study on the comparability of pen-on-paper and CBT examination, found that there was no relationship between CBT and pen-on-paper examination familiarity in test. Taylor and his colleagues (2012). Also after examining the relationship between CBT and pen-on-paper familiarity of the participants' performance. Chu, H.C, Hwang, G. J. Tsai C.C. & Tseng J. C. R (2010). Usually, studies focusing on the impact of technology mediated assessment on learning motivation and performance deploy a single learning or assessment strategy. To our knowledge, no studies exist that comparatively investigate the effect that pen-on-paper or CBT have on the motivational orientation and learning achievement of students in general courses. In the context of education, the current study adds to the existing literature by comparatively and simultaneously investigating both motivational factors and performance issues in respect to all two self-assessment delivery modes (pen-on paper and CBT bases).

Clarina, R, & Wallace (2015) investigated to confirm several key factors in CBT versus pen-on-paper assessment. Factors of the study were content familiarity, CBT familiarity, competitiveness. and gender. The study used a posttest only designed with one factor, test mode (CBT based and paper based). The result showed that CBT based test delivery impacted positively on students' scores as compared to pen-on-paper test. From the abstract of the study, it was found the result of the data showed that the CBT based test group outperformed the pen-on-paper test group. Male & Female competitiveness, and computer familiarity were not related to this performance difference, though content familiarity was. Some studies suggest that students do not obtain the same results when they take an identical test on both CBT and pen-on-paper. This finding is referred to as a "test mode effect". The test mode effect is the observation that performance tests measuring similar knowledge and skills yield different results when they are administered on CBT versus pen-on paper. For state and national assessments, comparability across delivery modes is important because assessments are usually offered on both CBT and pen-on-paper examination.

In these cases, scores from the two modes should be interchangeable. Comparability is also important when there is a transition from CBT to pen-on-paper delivery and educators want to compare students' performance across time (Csapo et.al; 2011). Horkay and colleagues (2015) used the National Assessment of Educational Progress' (NAEP) Writing CBT (WOL) Study to examine differences in students' performance on CBT based and pen-on-paper tests, based on their gender, ethnicity, parents' education level, income level (based on eligibility for free reduced price lunch), and school location. WOL groups were composed of rationally representative groups of eighth grade students drawn from the main NAEP assessments. The researchers found no significant differences in either boys or girls performance on CBT based versus pen-on-paper test. Similarly, no significant differences were found between the scores of students who completed their tests on pen-on-paper versus CBT based on ethnicity (Asia/Pacific Islander Black, Hispanic White, or 'Other'), parents' education level, and income level. The

only time the researchers found significant differences in scores, based on test administration mode, was when performance was analyzed by institution location. Students from urban fringe/ large town locations were found to perform significantly higher on CBT tests compared to pen-on-paper tests. No significant administration mode differences were found, however, for students from central city or rural/ small town location.

Method of Data Collection and Instrument used

The tool used for gathering information from the respondents was questionnaire. National Open University of Nigeria (NOUN) students of three selected Study Centre were target population. 300 of them in number i.e. (100 questionnaires for each center) were randomly selected among 200 to 400 level students of the three selected Study Centre as stated in the Table below. The 100 level students were set aside because they were new incoming students at the time the questionnaire were administered.

Three selected Study Centre:-

S/N	Institution	Study Centers
1	National Open University of Nigeria (NOUN) Osun State	Osogbo
2	National Open University of Nigeria (NOUN) Oyo State	Ibadan
3	National Open University of Nigeria (NOUN) Ogun State	Abeokuta

Three hundred questionnaires were administered by the researchers with the help of nine research assistant running programmed in the three selected study centers. The questionnaires were administered and collected instantly between the hours of 11.00am-1.00p.m, the beginning of the lecture periods for one of the study centers while the remaining two Study Centre was done between 2.00p.m-4.00p.m on Thursday and Friday because they received lectures during the week. All questionnaires collected from each study centers were eighty two (82), eighty five (85), seventy three (73) each out of hundred questionnaires administered, making the total number of 240 respondents. This shows that 80 percent were respond. Data collected was used for analysis through frequency count and percentages.

Table 1: Schools

Schools	Frequency	Percentage
Faculty of Agriculture	28	11.7
Faculty of Art	25	10.4
Faculty of Education	33	13.8
Faculty of Health Science	22	9.2
Faculty of Law	35	14.6
Faculty of Management Science	37	15.4
Faculty of Sciences	29	12.1
Faculty of Social Sciences	31	12.8
Total	240	100

The table 1 above indicated that, 11.7% of the respondents were from the faculty of agriculture, while 10.4% were students of faculty of art. Of the total respondents however, 13.8% belongs to faculty of education, 9.2% were students of faculty of health sciences. Also the result shows that 14.6% and 15.4% of the respondents were from faculty of law and faculty managements science respectively.12.1% were from faculty of sciences, while 12.8% represent faculty of social sciences. As indicated on the table above, the University consisted of eight faculties, with different but related programs.

Distribution of Respondents by Gender, N= 240

Table:-2

Sex	Frequency	Percentage (%)
Male	160	66.7
Female	80	33.3
Total	240	100.0

Table 2 above reveals the distribution of respondents by gender. 160 (66.7%) were male. While 80 (33.3%) were female. This research finding simply indicates that there are more male students than the female students in the selected centers of National Open University of Nigeria (NOUN).

Distribution of Respondents by Age

Table:-3

	Osogbo Study Center	Ibadan Study Center	Abeokuta Study Center	Total
18-23 yrs.	22	26	20	68
24-29 yrs.	18	17	15	50
30-35 yrs.	16	15	14	45
36-41 yrs.	14	14	13	41
42 yrs. above	12	13	11	36
Total	82	85	73	240

The above table indicated that 22 respondents were between ages 18-23 years in Osogbo Study Centre, 26 respondents of the same age group were from Ibadan study Centre while 20 respondents were from Abeokuta study Centre. Besides that, 18 respondents were between 24-29 age groups in Osogbo Study Centre, 17 respondents of the same age group were from Ibadan study Centre while 15 respondents were from Abeokuta Study Centre. Not only that, 16 respondents were between 30-35 years of age group in Osogbo Study Centre, 15 respondents of the same age group were from Ibadan Study Centre while 14 respondents were from Abeokuta Study Centre. Also, 14 respondents from Osogbo Study Centre were between 36-41 years of age group, 14 respondents were in the same age group from Ibadan Study Centre while 13 respondents from Abeokuta Study Centre were in the same age group. Furthermore, 12 respondents from Osogbo Study Centre were 42 years and above, 13 respondents from Ibadan Study Centre were in the same age category while 11 respondents of the same age category were from Abeokuta Study Centre. Therefore, the table above indicated that 18-23 years age group dominated the study. The table above indicated that the respondents are much dominated by the age group among 18-23, above, 36-40, and 26-30. This shows matured group of respondents. The sample shows that 36 of the respondents were fall among 42 yrs.

Finding and Results

The focus of this study was to examine the perspectives of CBT versus pen-on-paper examination among students of National Open University of Nigeria, A case study of three selected Study Centre, Osogbo, Ibadan and Abeokuta. This was in term of the familiarity influence with CBT and pen-on-paper, comparative among the students, academic performances, attitude towards and problem faced by students taken pen-on-paper and CBT examination

Table 4: Responses of users' about their familiarity CBT versus pen-on-paper examination.

STATEMENT	Osogbo Study Center		TOTAL	Ibadan Study Center		TOTAL	Abeokuta Study Center		TOTAL
	A	D		A	D		A	D	
I find it so easy to type my answer fast enough to meet up the time assigned for CBT examination	66 (80.5%)	16 (19.5%)	82	71 (83.5%)	14 (16.5%)	85	56 (76.7%)	17 (23.3%)	73
I prefer to write on pen-on-paper rather than CBT examination	22 (26.8%)	60 (73.2%)	82	20 (23.5%)	65 (76.5%)	85	25 (34.3%)	48 (65.7%)	73
I wish to have more exposure to CBT literacy to perform well in future examination	70 (85.4%)	12 (14.6%)	82	72 (84.7%)	13 (15.3%)	85	63 (86.3%)	10 (13.7%)	73
Pen-on-paper examination are more readable than online examination	25 (30.5%)	57 (69.5%)	82	20 (23.5%)	65 (76.5%)	85	18 (24.7%)	55 (75.3%)	73
I feel the practice assisted me to familiar with the nature of CBT examination	63 (76.8%)	19 (23.2)	82	65 (76.5%)	20 (23.5%)	85	57 (78.1%)	16 (21.9%)	73

The table 4 above indicated that 66(80.5%) respondent from Osogbo Study Centre agreed on the use of CBT examination, while 16(19.5%) of the respondent disagreed. From Ibadan Study Centre, 71(83.5%) also agreed on CBT examination and 14(16.5%) disagreed from the same Centre. 56(76.7%) from Abeokuta Study Centre agreed on the same issue while, 17(23.3%) disagreed from the same Study Centre. From Osogbo Study Centre, 22(26.8%) agreed on pen-on-paper examination while 60(73.2%) disagreed. From Ibadan Study Centre, 20 (23.5%) agreed on pen-on paper examination, and 65(76.5%) disagreed on pen-on-paper examination. From Abeokuta Study Centre, 25(34.3%) agreed on the same pen-on-paper while 48(65.7%) disagreed on pen-on-paper examination. Also 70(85.4%) agreed on CBT examination from Osogbo Study Centre, while 12(14.6%) disagreed from the same Centre. At the Ibadan Study Centre, 72(84.7%) agreed on CBT examination while 13(15.3%) disagreed. 63(86.3%) from Abeokuta study Centre agreed on CBT examination, while 10(13.7%) disagreed. Also on pen-on-paper examination, 25% agreed.

(30.5%) of respondent from Osogbo Study Centre agreed, while 57(69.5%) disagreed. From Ibadan study Centre 20(23.5%) agreed on pen-on-paper while 65(76.5%) disagreed and 18(24.7%) from Abeokuta Study Centre agreed on pen-on-paper examination while 55(75.3%) disagreed. From Osogbo Study

Centre 63(76.8%) were also agreed on CBT examination and 19(23.2%) disagreed. 65(76.5%) of respondent from Ibadan Study Centre agreed on CBT examination while 20(23.5%) disagreed. From Abeokuta study

Centre,57(78.1%) respondent agreed on CBT examination while 16(21.9%) disagreed from the same center. This shows that majority of the respondents' preferred CBT examination as against pen-on paper.

Table 5: Comparative survey statistic of students on CBT versus pen-on-paper examination

STATEMENT	Osogbo Study Center		TOTAL	Ibadan Study Center		TOTAL	Abeokuta Study Center		TOTAL
	SA	SD		SA	SD		SA	SD	
CBT system of examination could be more interesting for students	60 (73.2%)	22 (26.8%)	82	65 (76.5%)	20 (23.5%)	85	48 (65.8%)	25 (34.2%)	73
Pen-on-paper examination system seems to be more interesting technique	24 (29.3%)	58 (70.7%)	82	25 (29.4%)	60 (70.6%)	85	23 (31.5%)	50 (68.5%)	73
CBT system of examination could be more effective to create competition among students	64 (78.1%)	18 (21.9%)	82	63 (71.1%)	22 (25.9%)	85	46 (63.0%)	27 (37.0%)	73
Pen-on paper system of examination is easy to manage	28 (34.2%)	54 (65.8%)	82	25 (29.4%)	60 (70,6%)	85	27 (37.0%)	46 (63.0%)	73
CBT system of examination could produce more accurate result	60 (73.2%)	22 (26.8%)	82	65 (76.5%)	20 (23.5%)	85	54 (74.0%)	19 (26.0%)	73

Based on the comparative survey statistic of students on CBT versus pen-on paper examination, the table 5 above indicated that 60(73.2%) from Osogbo Study Centre strongly agreed on CBT examination, while 22(26.8%) strongly disagreed. From Ibadan Study Centre 65(76.5%) strongly agreed on CBT examination and 20(23.5%) strongly disagreed. 48(65.8%) from Abeokuta Study Centre also strongly agreed on CBT examination while 25(34.2%) strongly disagreed. On pen-on-paper examination, 24(29.3%) strongly agreed while 58(70.7%) strongly disagreed from Osogbo Study Centre. From Ibadan study center 25(29.4%) strongly agreed on pen-on-paper examination while 60(70.6%) strongly disagreed. 23(31.5%) strongly agreed on pen-on-paper examination while 50(68.5%) strongly disagreed from Abeokuta study Centre. On the effective CBT examination, 64(78.1%) strongly agreed while 18(21.9%) strongly disagreed from Osogbo Study Centre. From Ibadan Study Centre, 63(71.1%) strongly agreed on the use of CBT examination, while 22(25.9%) strongly disagreed. From Abeokuta Study Centre, 46(63.0%) strongly agreed while 27(37.0%) strongly disagreed on effective use of CBT examination. On the issue of pen-on-paper system of examination, 28(34.2%) from Osogbo Study Centre strongly agreed on the use of pen-on- paper examination system while 54(65.8%) were strongly disagreed. From Ibadan Study Centre, 25(29.4%) strongly agreed and 60(70.6%) strongly disagreed and from the same Centre. From Abeokuta Study Centre, 27(37.0%) of the respondent strongly agreed while 46(63.0%) disagreed. At Osogbo study Centre, 60(73.2%) strongly agreed on CBT system of examination and 22(26.8%) strongly disagreed. From Ibadan Study Centre, 65(76.5%) strongly agreed on CBT system of examination while 20(23.5%) strongly disagreed. At Abeokuta Study Centre, 54(74.0%) strongly agreed based on CBT system of examination while 19(26.0%) strongly disagreed which also shows that majority of the respondents preferred CBT examination as against pen-on-paper examination.

Table 6:- Students perspective on their academic performances with CBT versus pen-on paper examination.

Academic performance	Osogbo Study Centre	Ibadan Study Centre	Abeokuta Study Centre	Total Number of Respondent	%
I perform alright on CBT examination	30 (33.3%)	35 (38.9%)	25 (27.8%)	90	37.5%
I perform fairly on pen-on-paper examination	21 (30.0%)	30 (42.9%)	19 (27.1%)	70	29.2%
I perform very well on CBT examination	25 (31.3%)	35 (43.8%)	20 (25%)	80	33.3%
I perform on neither nor CBT or pen-on-paper examination	-----	-----	-----	-----	-----
Total				240	100%

From the table above, students from Osogbo Study Centre 30(33.3%) performed fairly alright during their CBT examination while 35(38.9%) of students from Ibadan Study Centre also performed fairly

alright on CBT examination. From Abeokuta Study Centre, 25(27.8%) performed fairly alright on CBT examination. Base on pen-on-paper examination, 21(30.0%) of the students from Osogbo Study Centre performed fairly alright. From Ibadan the same Study Centre, 30(42.9%) performed fairly alright while 19(27.1%) performed fairly alright Abeokuta Study Centre. From Osogbo Study Centre 25(31.3%) performed very well on CBT examination while 35(43.8%) of students from Ibadan Study Centre also performed very well on CBT examination and 20(25%) of students performed very well from Abeokuta Study Centre. This indicates that students performed very well on CBT examination as against pen-on-paper examination.

Table 7:- Students prevalent attitudes towards pen-on- paper versus CBT examination

	Osogbo Study Center	Ibadan Study Center	Abeokuta Study Center	Total Number of respondent	%
STATEMENT	SA	AG	DA		
The CBT examination was undertaking in a conducive environment for student testing	34 (35.4%)	45 (46.9%)	17 (17.7%)	96	40%
Do you think student fairness and equity is ensured with pen-on- paper examination	20 (29.0%)	19 (27.5%)	30 (43.5%)	69	28.7%
Do you prefer receiving your test results automatically using the CBT system	36 (48%)	25 (33.3%)	14 (18.7%)	75	31.3%
TOTAL				240	100%

The table 7 above shows that from the respondents on CBT examination undertaking in a conducive environment, 34(35.4%) strongly agreed from Osogbo Study Centre while respondents from Ibadan Study Centre, 45(46.9%) agreed and 17(17.7%) from Abeokuta Study Centre disagreed. Students fairness and equity with pen-on-paper examination, 20(29.0%) strongly agreed from Osogbo Study Centre while 19(27.5%) agreed from Ibadan Study Centre. From Abeokuta Study Centre 30(43.5%) disagreed. On how they prefer receiving their test result automatically using CBT system 36(48%) strongly agreed from Osogbo Study Centre, while 25(33.3%) also agreed from Ibadan Study Centre and 14(18.7%) disagreed from Abeokuta Study Centre. This indicates that CBT system of examination is still preferable as against pen-on-paper system of examination.

Table 8:-Problem faced by students taken pen-on-paper and CBT examination and necessary solution

	Osogbo Study Centre	Ibadan Study Centre	Abeokuta Study Centre	Total Number of respondent	%
STATEMENT	SA	AG	DA		
Pen-on-paper examination was difficult to take	28 (34.2%)	18 (21.2%)	15 (20.6%)	61	25.4%
CBT examination saves more time	35 (42.7%)	25 (29.4%)	12 (16.4%)	72	30%
CBT examination provides better assessment result	32 (49.2%)	23 (35.4%)	10 (15.4%)	65	27.1%
Pen-on-paper examination is more useful	13 (31.0%)	9 (21.4%)	20 (47.6%)	42	17.5%
Total				240	100

Table 8 above indicate that 28(34.2%) of respondents from Osogbo Study Centre strongly agreed on the difficulty encountered with pen-on-paper examination while 18(21.2%) from Ibadan Study Centre agreed and 15(20.6%) from Abeokuta study center disagreed. From Osogbo Study Centre 35(42.7%) of the respondents strongly agreed on how CBT examination save more time while 25(29.4%) from Ibadan Study Centre agreed and 12(16.4%) disagreed from Abeokuta study center. From Osogbo Study Centre, 32(49.2%) of the respondents strongly agreed on how CBT examination provides better assessment result while 23(35.4%) from Ibadan Study Centre agreed and from Abeokuta Study Centre 10(15.4%) disagreed. From Osogbo Study Centre 13(31.0%) of the respondents strongly agreed on more usefulness of pen-on-paper examination while 9(21.2%) from Ibadan Study Centre agreed and 20 (47.6%) disagreed. This shows that the CBT examination were easier to adopt as against pen-on-paper examination

CONCLUSION

The outcome of the study revealed that participants performed better on CBT based examination than pen-on-paper examination. The research finding are in contrast with those who were agree that there is not any difference between CBT and pen-on-paper examination if the exam administration condition is equivalent except the influence of respondents' preference in CBT based examination rather than pen-on-paper examination mode (Douglas & Hegelheimer, 2012). However, it supports the findings that favor the respondents' better performance in CBT based examination in comparison with pen-on paper examination (Coniam, D, 2016). It was evident that good students may performed well either in pen-on-p- exams or CBT exams when poor students had difficulties with both types of examination. Some features of CBT exams such as automatic result and feedback, more comfortable, more enjoyable, and time saving. Ease of changing answers, reading the passages and questions as well as being able to navigate through the text and questions were very attractive features of CBT examination that influence the participants to change their examination mode of preference are preferred by students and may be addition in practice of examination to improve students understanding the subject material. To substantiate the outcome of the results of this study, a large number of samples of students should be used. These could be including students with various courses (science and arts). Also, the study must be extended to few faculties and more subject with male and female participants in order to be conclusive and for the results to be indicative of a larger sample of participants.

RECOMMENDATION

According to the research finding, students showed positive attitudes towards CBT based examination while a large percentage of others were performed fairly in pen-on-paper based examination. The most problematic issues here is the contrast between the preference of participants towards pen-on-paper examination and their better performances in CBT examination. The outcome of result implies the need of further research in this area considering the factors that may influence the examination performance of students in CBT and pen-on-paper examination. The finding is hereby direct the management and examination developers to improve the conditions of conducting CBT and pen-on-paper examination in academic contexts and universities as a whole.

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