

Stakeholders' Sapience on the Ease of Use of CBT for Assessment

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ABSTRACT

Computer-based Test for assessment is a method of administering test in which the response is electronically assessed and recorded for accuracy. But users' reaction to the CBT assessment mode differs. This study focused on stakeholders' Sapience on the ease of use of Computer -Based Examination for assessment as well as the influence of gender on the Ease use of Computer-Based Test for Assessment. The study was a descriptive research of survey type. Random sampling technique was adopted to select 150 stakeholders for the study. Data were analyzed using frequency and percentages and t-test at 0.05 significant level. The findings from the study revealed that stakeholders have high sapience on the ease of use of CBT for assessment. Also, there was no significant difference between male and female stakeholders on the sapience on the ease of use of computer-based test. The study concluded that stakeholders' sapience on ease of use of the Computer Based Test improved their digital and innovative skills. It was thus recommended among other that lecturer should be trained on the effective use for assessment.

Keywords: Stakeholders, Sapience, Gender, Ease of Use, CBT, Assessment

ABSTRAK

Tes berbasis komputer untuk penilaian adalah metode pemberian tes di mana respons dinilai secara elektronik dan dicatat keakuratannya. Tetapi reaksi pengguna terhadap mode penilaian CBT berbeda. Penelitian ini berfokus pada Kepedulian pemangku kepentingan terhadap kemudahan penggunaan Ujian Berbasis Komputer untuk penilaian serta pengaruh gender terhadap Kemudahan penggunaan Ujian Berbasis Komputer untuk Penilaian. Penelitian ini merupakan penelitian deskriptif dengan tipe survey. Teknik pengambilan sampel acak diadopsi untuk memilih 150 pemangku kepentingan untuk penelitian ini. Data dianalisis menggunakan frekuensi dan persentase serta uji-t pada taraf signifikan 0,05. Temuan penelitian mengungkapkan bahwa pemangku kepentingan memiliki kepekaan yang tinggi terhadap kemudahan penggunaan CBT untuk penilaian. Juga, tidak ada perbedaan yang signifikan antara pemangku kepentingan laki-laki dan perempuan pada kecerdasan pada kemudahan penggunaan tes berbasis komputer. Studi ini menyimpulkan bahwa kesadaran pemangku kepentingan tentang kemudahan penggunaan Tes Berbasis Komputer meningkatkan keterampilan digital dan inovatif mereka. Oleh karena itu direkomendasikan antara lain agar dosen dilatih tentang penggunaan penilaian yang efektif.

Kata Kunci: Pemangku Kepentingan, Kebijakan, Gender, Kemudahan Penggunaan, CBT, Penilaian

Submit: 30 August 2021

Received: 09 November 2021

Published: 15 November 2021

1. Introduction

Education is defined as a conscious and planned effort to create a learning circumstance and a process of learning in order that the learners can actively develop their potentials to acquire a power of religious spirituality, control, personality, aptitude, and good attitude that will be useful for themselves, for their society, and eventually for their nation. (Andrew, 2013). Roni (2011) opined that education can be defined as a way to develop skills, habits and attitudes that are expected of one to become a good citizen. The intent is to develop or alter an individual cognitive, affective and psychomotor domain. Every society, no matter how crude, will have way of educating the children, though the approach may be adjudged crude; the purpose of education is usually the same. Hence, the purpose of education is the same all over the world to train the individuals so as to be useful to him and the society to which he belongs.

Assessment is a vital element of instructional processes as it is often used to determine the degree to which stated educational objectives would be achieved and the extent to which educational institutions will aid the needs of the society in general. Assessment is essential, not only to guide the development of individual student but also to monitor and continuously improve the quality of programs, inform prospective students and their parents (Obikeze, Amaechi , Akujieze, & Anujeonye, 2019).

Nevertheless, assessment goes beyond testing. Thus, for selecting students for entry into higher institutions the one conducted by Joint Admission and Matriculation Board (JAMB). (Obikeze, Amaechi , Akujieze, & Anujeonye, 2019). One of the instrument of assessment is test. Osegbo and Ifeakor (2011) defined test as a set of standard questions presented to an individual or group of individuals to answer or respond to. These questions contain some desirable characteristics which the examiner expects from the examinee. They reiterated that the response made by the examinee is an indication of the extent of the desired characteristics possessed by him/her. A test may be administered orally, on paper, on a computer or in a confined area that examination and assessment. Obikeze, Amaechi , Akujieze, & Anujeonye (2019) notes that technology has significantly reshaped the method of assessment/testing. They added that technologies in teaching, learning and assessment has shifted the paradigm from paper-pencil test (PPT) to computer-based test/assessment (CBT or CBA) or e-assessment.

Since the emergence of ICT, schools, institutions and examination bodies see computerbased test (CBT) as an indispensable tool in their examination administration. Olawale and Shafi'l (2010) stated that CBT is the process of which examinations are delivered, taken and scored electronically. It entails questions being deployed into computer works stations (intranet and internet) and candidates answering the question on the computer. Similarly, Ojerinde (2014) affirmed that CBT is a method of administering tests in which the responses are electronically recorded and assessed.

More so, CBT is a combination of networks, hardware and software as well as means of communication, collaboration and engagement that enables the processing, management and exchange of data, information and knowledge. It can be understood to be a complex of artificial techniques and knowledge for solving instructor's problem involving marking pen and examination (Bennett, 2015). Computer Based Test (CBT) is not just an alternative method for delivering examinations; it represents an important qualitative shift away from traditional methods such as paper-based tests (Daramola, 2018).

Anene (2016) conducted a study which empirically assessed student's perception of Joint Admission and Matriculation Board (JAMB) Computer Based Examination in Nnamdi Azikiwe University, Awka, Anambra state, Nigeria. The study found that student's generally perceived JAMB computer based examination as a concrete and rewarding experience and also computer based examination is enjoyable than paper based examination. In addition, the study revealed that poor computer literacy affects students and lack of a well-designed examination instruction on the use of computer based examination. Based on these findings it was concluded that the management of Joint Admission and Matriculation Board should take into cognizance the perception of students towards computer based examination for full operational of the innovative techniques in Nigeria.

Gender is a form of social differentiation which refers to a sociocultural distinction between males and females (Hughes, Kroehler & 11 Zanden, 2002). This definition suggests that gender is a socially or culturally constructed characteristics and role which are associated with males and females. Gender is different from sex which is a biological distinction in appearance (morphology) and function (physiology) as well as reproductive contributions of men and women. According to Lee (2001), gender is ascribed attribute that differentiates feminine from masculine. Stakeholders involved in the use of CBT may be male or female. This question necessitated the inclusion of gender as a variable in this study.

a. Statement of the Problem

Computer Based-Test (CBT) came into the light due rapid development in technology and examination malpractice in Nigeria that is already a cankerworm in educational system. Also, some other irregularities in Paper and Pencil Test (PPT) like inaccuracy in marking, delay in marking results and among other. Computer Based-Test (CBT) has a lot of benefits compare to Paper and Pencil Test (PPT). Computer Based-Test (CBT) has been able to provide solution to the problem of Paper and Pencil Test (PPT) mentioned above.

Onojaiife (2020) examine student's perception of the constraints of writing computer based test on office technology and management courses in Polytechnics in Delta State. Findings of the study OTM students agreed that there are computers, administrative and personnel constraints of writing CBT on OTM course in polytechnics in Delta State. A study by Oladimeji and Mwuese (2018) on CBT as a panacea on undergraduate's students' performance. The findings show that some challenges such as the mixed up of results due to improper data base management which at times could lead to mass failure. In view of the above previous studies on CBT, therefore this study seeks to bridge the gap established by previous researchers. This study thus investigates stakeholders' sapience on the ease of use of CBT for assessment.

b. Purpose of Study

The specific purpose of this study is to investigate stakeholders' sapience on the ease of use of CBT for assessment. Specifically, the study

1. Determined undergraduate students' perceived ease of Computer Based-Test (CBT)
2. Examined the influence of gender on the perceived ease of use of Computer Based-Test (CBT)

c. Research Questions

Based on the purpose of the study, the following research questions were answered

1. What is undergraduate students' perceived ease of Computer Based-Test (CBT)?
2. How does gender influence student perceived ease of use of Computer Based-Test (CBT)?

d. Research Hypotheses

Based on the research questions, the following research hypotheses was formulated and tested:

H₀₁: There is no significant difference between male and female undergraduate students' perceived ease of use of CBT.

2. Methodology

This chapter presented the methods and procedure that was used to carry out the study.

a. Research Design

The study adopted the descriptive research of survey type. The study adopted the descriptive research of survey type because it involves quantitative approach which was meant to assess a social situation in order to make inference and generalization.

b. Sample and Sampling Techniques

The population for this study was lecturer students of University of Ilorin. A purposive sampling technique was employed to select Ilorin central as sample for target population for the study. Purposively, the targeted population for this study was stakeholder students from Faculty Education, Faculty of Life Science, Faculty of Physical Science and Faculty of Agricultural Science. These faculties were selected because they use CBT to write most of their exams. A total number of 150 students and 50 lecturers were the sample for this study. Specifically, 30 and 60 undergraduate students

will be selected randomly from each faculty. respectively all, 200 stakeholder students would be sampled for the study.

c. *Research Instrument*

Researcher-designed questionnaire titled stakeholders' Sapience on the ease of use of CBT for assessment was used to elicit information from the respondents. The questionnaire was designed in such a way that it would provide answers to the Research Questions which the study seeks to answer. The questionnaire of comprised of two sections; section A encompassed information about the respondents such as Gender, Age, Faculty, and Program of Study. Section B focused on items on the research questions designed to provide answer for the questions.

d. *Validation of Research Instrument*

To ensure the validity of the questionnaire, experts from the Department of Educational Technology validated the instruments for face and content validity. Their corrections and suggestions were used to modify the final draft of the instrument.

e. *Procedure for Data Collection*

Permissions were sought and granted by the heads of the faculties to conduct the study in their respective faculties. The respondents were permitted to participate in the study voluntarily without being coerced. The questionnaire was simplified be given to the respondents to fill and will be collected immediately after they had been filled. Further analysis was made on the filled and collected questionnaire.

f. *Data Analysis Technique*

The study employed the use of questionnaire to obtain data from the respondents. The data was obtained to be analyzed using descriptive statistics (frequency count, mean and percentage) and inferential statistics was used to answer research question one and two while independent t-test was used to test the research hypothesis. Data obtained was coded and analyzed using Statistical Package for Social Sciences (SPSS). All hypotheses were tested at 0.05 level of significance.

3. Results and Discussions

A total of 200 stakeholders from University of Ilorin in Kwara State, comprising of male and female made up the sample for this study and eventually 149 were properly filled and returned amounting to 74.5% response rate. The sample size for this research was sufficient and representative.

a. *Demographic Data*

The respondents' demographic data are presented in Tables 1-9

Table 1: Respondents Data based on Faculties

Faculty	Frequency	Percent	Cumulative Percent
Education	57	38.3	38.5
Life Science	54	36.2	75.0
Physical Science	38	25.5	100.0
Total	149	100.0	

The respondents' data based on the faculties is showed in table 1. The table indicated that 57 (38.3%) students were in the faculty of Education, 54 (36.2%) students were in the faculty of Life Science while 38 (25.5%) students were in the faculty of Physical science. The respondents' population in each of the faculties was also displayed in figure 1.

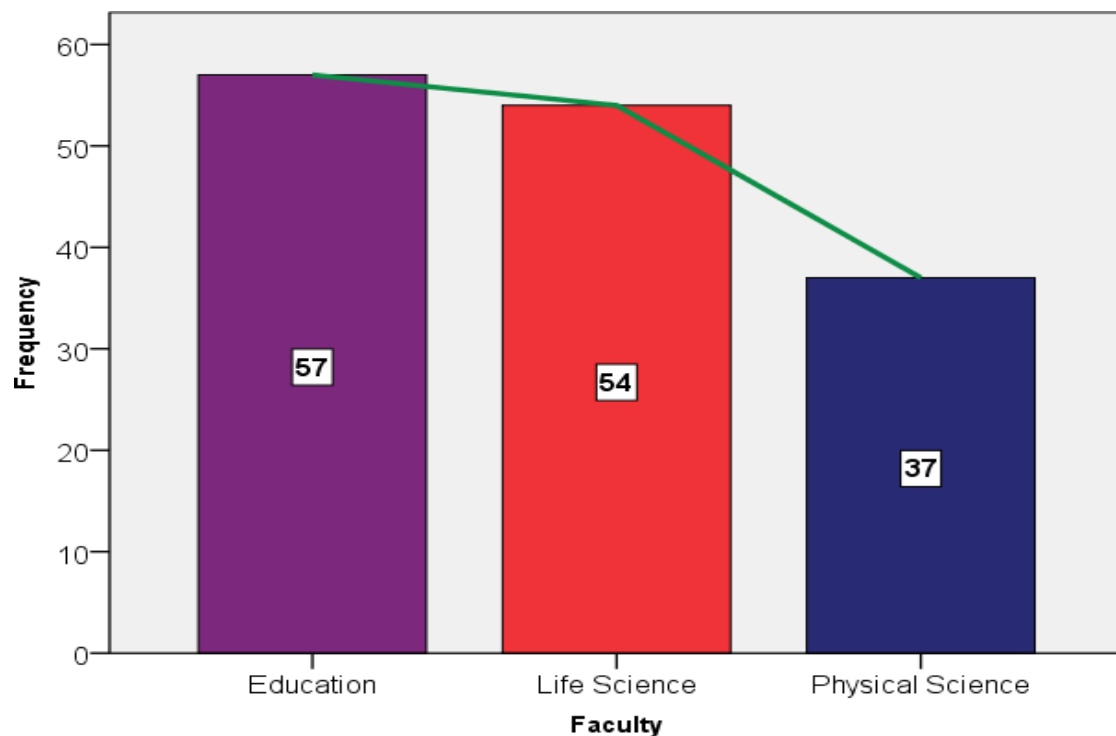


Figure 1: Chart on Respondents' Faculties

As indicated in figure 1, most of the students were from the faculty of Education while others are from Life Science and Physical Science.

b. Research Question One

What are undergraduate students' perceived ease of Computer Based-Test (CBT)?

In response to this research question two, mean and standard deviation was employed to direct the perception of student on the ease of use of CBT. The result is shown in Table 2.

Table 2: Undergraduate Students' Perceived Ease of Computer Based-Test

S/N	Perceived Ease of Use	Mean	Std. Deviation
1.	The interaction with CBT has been lucrative.	3.74	2.494
2.	It is very conducive to be examined with CBT	3.15	.597
3.	CBT questions should be from the course of study	3.43	.596
4.	CBT are users' friendly	3.28	.847
5.	CBT will make me to understand and learn how to operate computer effectively	3.39	.589
6.	CBT will make it easier for me to learning from different source	3.29	.747
7.	CBT will make me more skilful in meeting up with given time for assessment	3.41	.604
8.	CBT will make it easier for me to think faster for the right answer	3.46	.642
9.	CBT gives users greater awareness of its uses	3.36	.594
10.	CBT reviews the nature of the studied course	3.26	.607
	Perceived Ease of Use	3.3777	.40403

The perception of student on the ease of use of CBT was also examined and reported in table 2. It displayed that the undergraduate students perceived interaction with CBT to be lucrative and it is very conducive to be examined with CBT with mean scores of 3.74 and 3.15. Also, most of the students perceived that CBT questions should be from the course of study and CBT are users' friendly with mean scores 3.43 and 3.28. Others followed suit as shown in table 5. The grand mean score of 3.37 which was greater than the benchmark of 2.50 established that undergraduate students have good perception on the ease of use of Computer Based-Test.

c. Research Question Two

How does gender influence student perceived ease of use of Computer Based-Test (CBT)?

In other to establish if gender influence students perceived ease of use of CBT, frequency count and mean and mean gain was used.

Table 3: Difference Between Male and Female Students' Perceived Ease of Use

Gender	Frequency	Mean	Mean Gain
Male	74	3.39	
Female	75	3.36	0.03
Total	149		

The influence of gender on the perceived ease of use of Computer Based-Test indicated that male perception on the ease of use of CBT was more than their female counterparts with a minimal mean gain of 0.03.

d. Hypothesis One

There is no significant difference between male and female undergraduate students' perceived ease of use CBT?

Independent samples t-test was conducted to determine if there is any significant difference between the perception of males and female undergraduate students towards the ease of using CBT. The result is shown in Table 9.

Table 4: t-test on Significant Difference between Perceived Ease of Use of Male and Female

Gender	N	Mean	Std. Deviation	Df	T	Sig. (2-tailed)
Male	74	3.39	.363			
Female	75	3.36	.444	147	.385	.700
Total	149					

Results in table 9 shows that the calculated t-value was 0.39 with significant value of 0.70 was not significant at 0.05 alpha levels because p-value was greater than 0.05. This implies that the null hypothesis two was not rejected: hence, there was no significant difference between the perception of males and female undergraduate students towards the ease of use of CBT.

Discussions

Undergraduate students have good perception on the ease of use of Computer Based-Test with grand mean scores of 3.37. This support the findings of Obikeze, Amaechi , Akujieze, & Anujeonye (2019) who stated that technology has significantly reshaped the method of assessment/testing. Anene (2016) also established that student's generally perceived JAMB computer based examination as a concrete and rewarding experience and also computer based examination is enjoyable than paper based examination. There was minimal difference between male and female undergraduate students' perceived ease of use of CBT with mean gain of 0.03 in favour of the male;

There was no significant difference between male and female undergraduate students' perceived ease of use CBT. This corroborates the findings of Onojah, Olumorin, Adegbija and Babalola (2019) who established that there was no significant difference between male and female undergraduate students' perception towards the use of flipped classroom for learning.

4. Conclusion

The study concluded that stakeholders have good perception on the ease of use of CBT for assessment. This perception cut across all stakeholders regardless of their gender.

5. Recommendations

Based on the findings, the following recommendations were made. All technologies that could be used to ease the use of CBT for assessment in tertiary institutions were recommended. Seminars and workshops should be organized to all student on the benefits of using CBT for assessment. School administrators should employ the CBT for assessment in all their school subject.

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