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■ **THEME** ■

**ENHANCING QUALITY EDUCATION THROUGH
INNOVATIVE PEDAGOGY**

**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
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**INNOVATIVE ASSESSMENT TECHNIQUES FOR STUDENTS' ACADEMIC
PERFORMANCE IN INFORMATION RETRIEVAL SYSTEM COURSE IN LIT
DEPARTMENT, FUT MINNA, NIGERIA**

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Abstract

The study investigated the use of innovative assessment techniques for student' academic performance in information retrieval course. Documentary source (test scripts, quiz, and record of attendance, class participation as well as examination script and approved result) were used to collect and analyze data. Simple tabulation and percentages were used to further analyze data. Result showed that students performed highly in continuous assessment. While the overall performance of students in the examination and the course was above average. It was further revealed that, to help student score A grade, 28 score B Grade while C grade was obtained by 8 students. There was no failure in the course. It was concluded that student can be self-reliant after graduation. The study recommended that lecturer handling related courses should explore under innovative techniques to access student's academic performance.

Keywords: Continuous assessment, Examination, Academic Performance, Undergraduate Students.

Introduction

Educational system all over the world have undergo rapid change, Nigeria is not exceptional. In Nigeria, there was paradigm shift from 7,5,4, to 6 3 3 4 system of education. Regardless of any of this system, each is characterized by innovations in teaching and assessment techniques. Today there is a shift from lecture method to electronic method of teaching (Use of projector, PowerPoint, Slide) as well as method of assessing teacher's competence/level of instructional delivery; student level of understanding of teaching.

The concept of continuous assessment to a lay man understanding is test; and the truth of the matter is that the definition of continuous assessment is the record of student performance from the beginning of teaching a particular course/subject to the end of lecture and before semester, terminal and/or sessional examination.

The current innovative assessment includes but not limited to mid-term test, term paper, quiz, class participation, and attendance, etc. although these varies from institution and from one level of education to another. The need for continuous assessment of student is spelt out in the National policy of education (2003). There are two types of evaluation: formative evaluation and summative evaluation. The former in the assessment which take place un-termly or monthly basis while, the later takes place at the end of students' program such as oral defense of project/thesis.

The performance of students at the end of term, semester, session or program largely depend on the cumulative assessment of test, class attendance/participation, quiz term paper and end of term or semester examination which at the end leads to student earning Cumulative Grade Point Average (CGPA) distinction, upper credit, lower credit/lower merit, as the case of diploma program while first class, second class upper and lower, third class and pass degree as the case of universities in Nigeria, although Aji (2018) maintain that academic performance of undergraduate students is usually a function of/to some extent depends on utilization of ICT facilities in university libraries.

Despite emphasis lay on continuous assessment, some teachers consider tests as the only method of assessing students' academic performance and this sometimes lead students' having low level of academic performance in some courses/subjects.

The main objectives of this study is to identify various innovative assessment techniques and undergraduate student's level of performance in LIT 513 (three credit unit) i.e information retrieval systems, a 500 level,3-unit course in the department of Library Information Technology, Federal University of Technology Minna.

Literature Review

Ogunsanwo (2005), conducted a study to find out the differences and relationship between study habits and academic performance of boarding and day students in Ibadan Metropolis. Continuous assessment scores of students in English Language and Mathematics test were used to test the students' academic performance. The scores of each student in two subject in the eight schools within the metropolis were converted to t-scores. The co-efficient of the liability was 0.81 meaning that the study habit instrument (SHI) was discovered to be useful and reliable. (Saka, 2014) reported a positive impact of continuous assessment and examination on the overall academic achievement of 200 level students in Government Document Course in FUT Minna.

Methodology

Documentary analysis of CA records and marked scripts, moderated and approved results were used to collect data. Sorting was done according to the assessment techniques used and marked scripts. Simple calculation involving frequency counts and percentages were used to analyze the data. Though there was anonymous on students' matriculation numbers

Results and Discussion

Table 1: Assessment Techniques

S/N	Matric No.	Class Attendance (5marks)	Quiz/Part. (5marks)	Group Assign. (10marks)	Test (20marks)	Total score (40marks)
1	XXXX	5	5	9	10	29
2	XXXX	5	5	9	12	31
3	XXXX	5	5	9	10	29
4	XXXX	5	5	9	10	29
5	XXXX	5	5	9	11	30
6	XXXX	5	5	9	10	29
7	XXXX	5	5	9	9	29

8	XXXX	5	5	9	11	30
9	XXXX	5	5	9	10	29
10	XXXX	5	5	9	9	29
11	XXXX	5	5	9	12	31
12	XXXX	5	5	9	10	29
13	XXXX	5	5	9	10	29
14	XXXX	5	5	9	11	30
15	XXXX	5	5	9	11	30
16	XXXX	5	5	9	11	30
17	XXXX	5	5	9	9	28
18	XXXX	5	5	9	12	31
19	XXXX	5	5	9	10	29
20	XXXX	5	5	9	11	30
21	XXXX	5	5	9	10	29
22	XXXX	5	5	9	12	31
23	XXXX	5	5	9	10	29
24	XXXX	5	5	9	10	29
25	XXXX	5	5	9	10	29
26	XXXX	5	5	9	10	29
27	XXXX	5	5	9	10	29
28	XXXX	5	5	9	11	30
29	XXXX	5	5	9	10	29
30	XXXX	5	5	9	10	29
31	XXXX	5	5	9	10	29
32	XXXX	5	5	9	10	29
33	XXXX	5	5	9	10	29
34	XXXX	5	5	9	10	29
35	XXXX	5	5	9	12	31
36	XXXX	5	5	9	10	29
37	XXXX	5	5	9	9	29
38	XXXX	5	5	9	10	29
39	XXXX	5	5	9	9	28
40	XXXX	5	5	9	10	29
41	XXXX	5	5	9	10	29
42	XXXX	5	5	9	8	28
43	XXXX	5	5	9	10	29
44	XXXX	5	5	9	10	30
45	XXXX	5	5	9	10	29
46	XXXX	5	5	9	9	28
47	XXXX	5	5	9	11	30
48	XXXX	5	5	9	10	29

From Table 1 the column on Matric Number was marked XXXX showing anonymity thus the students' Matric Numbers were not shown to consumers of the information in this paper.

Continuous Assessment is not restricted to test above, other yardsticks are used to measure students' academic performance. These yardsticks include: attendance to lectures; class participation, quiz, individual and group assignment, term paper presentation, seminars and test. In FUT Minna the C/A is 40% and is expected to be spread within or some of the above-listed yardsticks for measuring students' academic performance. The writers of this paper who is also the lecturers in the department and teaching the course respectively used the following yardsticks for assessing students' academic performance, thus:

Class attendance	- 5%
Quiz/Class participation	- 5%
Group Assignment	- 10%
Test	- 20%
Total	- 40%

From the Table, all the 48 students met the 75% attendance requirement and each earned the 5% allocated to lecture attendance. The score was generated from the series of attendance taken and contained in the documents titled: "attendance sheet". During each lecture attendance sheet is passed around and roll call taken at the end of lectures. At the end of the course lecture the attendance list are assembled and each student attendance was determined. Series of quiz were administered on students at the beginning middle and end of lectures and is usually 5 minutes the essence of administering quiz is to check regularity of students to lectures, assess students' Intelligent Quotients (IQ) level as well as making learning more permanent on students. Going through the scripts and records of class participation all the 48 students met up the requirements and each earned the 5%. The lecturer assigned/grouped the 48 students into five (5) groups and gave them assignment on "compilation of citation index of SSTE conference proceedings of 2013, 2014, 2015, 2016 and 2017". Each group was assigned a year proceeding and able to meet the requirement by not only compiling the citation index but also type and save the document on Compact Disk (CD). After thorough examination of the documents each group scored 9% out of 10%. Data on the last column showed variations in the mark scores in 20% test among the final year undergraduate students offering the course. The highest score in the test was 12 mark and five (5) students accounted for the highest score. This was followed by eight (8) students with each scoring 11 marks. Six students scored 9 marks and the lowest score of 8 marks was from one student. The observation from the score was that students did not expect question from the aspect of the "type of subject index". This was based on friendly interaction with the students in one of the lectures after the test. The cumulative C/A result showed that the academic performance of students was highly impressive as the range score was between 28 and 31 marks.

Table 2: Examination Questions and scores

S/N	Questions	Scores by Students
1.	a. What do you understand by indexing language and indexing process?	
Compulsory	b. Show the relationship and area of demarcation between Catalogue and Bibliography	4, 5 ⁴ , 6 ⁶ , 7 ⁷ , 8 ⁶ , 9 ⁷ , 10 ¹⁵ , 11, 13
	c. How can you as a Librarian assist users to search and retrieve information from online database using AND, OR, NOT	(48 students)

d. In a pool of the collection of 100 relevant documents, a searcher was able to retrieve 64 of such documents. In another way round, 100 documents were retrieved by the system out of which 89 of them were relevant.

i. Calculate the recall ratio and precision ratio

ii. What do you understand by Recall ratio and Precision ratio in information retrieval systems?

(15 marks)

2. In an information-based industry, abstracts and indexes are very crucial to the research needs of users. How can you as a librarian succinctly produce these vital tools so as to meet user's research needs?

1³, 6⁷, 8², 9³, 10⁷,
11¹¹, 12²,
(35 students)

(15 marks)

3. With the aid of concrete examples and illustrations, succinctly explain any FIVE (5) types of subject indexes that are produced and used in third world libraries.

7⁴, 8³, 9⁷, 10¹⁰,
11⁵, 12², 14
(32 students)

(15 marks)

4 a. Create borderlines among Data, Database and Database Management Systems

4², 5, 6², 10⁹,
11³, 12⁶, 13
(24 students)

b. Succinctly explain by categorization the databases and database management systems.

5 a. Abstracts serves as mirror to full text and intellectual content of collection in library and information centres depending on their groups/groupings. Critically but in a step-by-step order account for their groupings.

1, 10³, 12²
(6 students)

(15 marks)

6. Provide full explanatory notes on the following with special emphasis on their relevancy in the information retrieval systems.

a. Boolean operators and OPAC (3 marks)

3, 4, 7², 8³, 9²,
10⁷, 11
(17 students)

b. National and Trade Bibliography (3 marks)

c. Language used in preparing a named search tool (3 marks)

d. Indexing coordinate system. (3 marks)

3 marks for good and logical presentation of ideas

(15 marks)

Examination carries 60% and since it is 3-unit course six questions are set and students are expected to four questions. Table 2 was on six examination questions and frequency of scores by students in questions 1,2,3,4,5& 6 respectively. Each question carries 15 marks and that question number 1 is compulsory for all students to answer. The interpretation of the score showed that:

Key

- $1^3 = 3$ students, each score 1 marks
- $4^2 = 2$ students, each score 4 marks
- $5^4 = 4$ students, each score 5 marks
- $6^2 = 2$ students, each score 6 marks
- $6^7 = 7$ students, each score 6 marks
- $8^2 = 2$ students, each score 8 marks
- $8^3 = 3$ students, each score 8 marks
- $8^6 = 6$ students, each score 8 marks
- $9^2 = 2$ students, each score 9 marks
- $9^3 = 3$ students, each score 9 marks
- $9^7 = 7$ students, each score 9 marks
- $10^2 = 2$ students, each score 10 marks
- $10^3 = 3$ students, each score 10 marks
- $10^7 = 7$ students, each score 10 marks
- $10^9 = 9$ students, each score 10 marks
- $10^{10} = 10$ students, each score 10 marks
- $11^{11} = 11$ students, each score 11 marks
- $11^5 = 5$ students, each score 11 marks
- $11^3 = 3$ students, each score 11 marks
- $12^2 = 2$ students, each score 12 marks
- $12^6 = 6$ students, each score 12 marks

The overall observation from the table was that the highest mark scored was 14 by one student that answer question 3 which was on five types of subject indexes produced and used by the third world libraries and thus was followed by 13 marks score by two students that answered question numbers 1 and 4 which were on indexing language and processes, catalogue and bibliography, Boolean operators, recall and precision ratio as well as data, database, DBM respectively.

Table 3: Overall Students' Performance in LIT 513 course

Table 3 showed students' cumulative performance in continuous assessment and semester examination of 2017/2018 session.

S/N	Matric No	CA	Exam	Total	Grade	Remark
1	XXXX	29	30	59	C	Passed
2	XXXX	31	58	56	C	Passed
3	XXXX	29	72	74	A	Passed
4	XXXX	20	31	51	C	Passed
5	XXXX	30	31	61	B	Passed
6	XXXX	29	45	74	A	Passed
7	XXXX	28	37	65	B	Passed
8	XXXX	30	42	72	A	Passed
9	XXXX	29	36	65	B	Passed

10	XXXX	29	31	60	B	Passed
11	XXXX	31	47	78	A	Passed
12	XXXX	29	41	70	A	Passed
13	XXXX	29	36	65	B	Passed
14	XXXX	30	40	70	A	Passed
15	XXXX	30	36	66	B	Passed
16	XXXX	30	45	75	A	Passed
17	XXXX	28	34	62	B	Passed
18	XXXX	31	39	70	A	Passed
19	XXXX	29	34	63	B	Passed
20	XXXX	30	42	72	A	Passed
21	XXXX	29	38	67	B	Passed
22	XXXX	31	43	74	A	Passed
23	XXXX	29	26	55	C	Passed
24	XXXX	29	34	63	B	Passed
25	XXXX	29	36	65	B	Passed
26	XXXX	29	28	57	C	Passed
27	XXXX	30	30	60	B	Passed
28	XXXX	29	33	62	B	Passed
29	XXXX	29	31	60	B	Passed
30	XXXX	29	32	61	B	Passed
31	XXXX	29	34	63	B	Passed
32	XXXX	29	36	65	B	Passed
33	XXXX	29	29	58	C	Passed
34	XXXX	29	22	51	C	Passed
35	XXXX	31	43	74	A	Passed
36	XXXX	29	35	64	B	Passed
37	XXXX	29	31	60	B	Passed
38	XXXX	29	39	68	B	Passed
39	XXXX	28	34	62	B	Passed
40	XXXX	29	41	70	A	Passed
41	XXXX	29	34	63	B	Passed
42	XXXX	28	36	64	B	Passed
43	XXXX	29	34	63	B	Passed
44	XXXX	30	31	61	B	Passed
45	XXXX	29	40	69	B	Passed
46	XXXX	28	33	61	B	Passed
47	XXXX	30	27	57	C	Passed
48	XXXX	29	39	68	B	Passed

Grades were based on the consideration of results at department and School Board. Observation from the table showed that the students' performance in both Continuous Assessment (C/A) and examination was encouraging though with exception of a Serial Number (S/N) 2 students, all other 47 students' performance was examination in higher than that of C/A. This may be accounted for high level of preparation and/or seriousness for examination. The overall performance in LIT513 course showed that 12 students obtained between 70% and

78% i.e. A-grade, while 28 of the students obtained between 60% and 69% i.e. B-grade. The table revealed that eight students obtained C-grade and scores were between 51% and 59% respectively. The summary/analysis of the scores in the Table 4 below.

Table 4: Summary/Analysis of Scores.

Mark Range	Grade	Frequency
70 – 78	A	12
60 – 69	B	28
51 – 59	C	08
Total	A, B, & C	48
	D,E, & F	None

Discussion of Major Findings

From the data analysis of assessment techniques, it was discovered that 48 students in 500 level generally perform high with highest score of 31% and the lowest of 28% out of the total 40% respectively. Student's performance it tests was not encouraging as 5 of them perform below average. The overall findings corroborate that of Ogunsanwo (2005) who discovered the reliability coefficient of 0.81 for secondary school students within Ibadan Metropolis.

On the examination scores in respect to questions answer showed that the overall performance of 500 level students was above average. It is not surprising as students were able to revive the test scripts and the entire lecture note. This findings is in line with that of Saka (2014), who discovered positive impact of continuous assessment and examination on overall academic achievement of 200 level students in Government Document Course.

Conclusion

With high performance of student in LIT 513, showed that student can perform well not only in labour market but also to be self-reliant after graduation.

Recommendation

Lecturers handling related courses can explore other innovative techniques to assess students' academic performance.

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