

Evaluation of Curriculum Implementation in Nigeria Universities – A Feasibility Study

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ABSTRACT

This research investigated the use of lecture material by students in the preparation of lectures and examination. The instigation includes determining if departmental handbook which contains the curriculum that students in the department are to offer before their graduation are made available to students at the point of their registration in the department. It also includes determining if there is a need to evaluate lecture materials given by lecturers to students to know if it compliances with minimum benchmark established by National University Commission (NUC). The research involved administering structured questionnaire to 200 students selected randomly from University of Nigeria, Nsukka and Chukwuemeka Odimegwu Ojukwu University, Uli to elicit response on the use of lecture materials. Chi square was used to analyze the data collected from the respondents. The mean of the nominal value is equal to 2.5 at 0.005 level of confidence and 12 degree of freedom. The calculated χ^2 of 207.6 exceeds the χ^2 critical value of 21.0. This shows that students use lecture material in the preparation of lectures and examination. The result also shows that students are aware of departmental handbook which was developed in line with NUC curriculum. Also the research reveals that there is a need to evaluate the lecture materials given to students to know if it compliance with NUC minimum benchmark.

Key Words: Curriculum, learning, evaluation and lecture material.

INTRODUCTION

The primary aim of all teachers is to help their students to learn. Teachers, however, teach students in line with curriculum set out by supervisory bodies. Assessing whether teachers conform to the contents of the curriculum is very important because it helps to establish if required objectives are attained. Evaluation according to Lucas (2005) affects decisions about instructional needs and curriculum improvement. Lucas also posits that evaluation encourages teachers in making such assertion as "Are we teaching what we think we are teaching?" "Are students learning what they are supposed to be learning"? One of the greatest assets to student's learning is having good lecture material. Bligh (2000) enumerated the benefits of lecture materials to include saving students from using periods mapped for classroom contacts for taking notes. Classrooms contacts are important to learning as students are expected to give in their maximum concentration. Therefore, when lecture material is readily available, students would concentrate more and listen attentively to what a teacher is teaching.

Lecture materials also enable students to read ahead and adequately get prepared before the classroom hours. Lecture material would also enable students to seek for deeper meaning of words and drawings that are contained in it. With lecture material, students can therefore concentrate to deeply understand the contents of the material. With such efforts, students can use their own words to interpret some concepts.

Lecture material also enables foreign students to have a good understanding of the major concepts of the lectures and avoid translation errors. They can be able to give interpretations to the contents of the material using image memories from their background and local settings.

Lecture materials also enable students to get familiar and give interpretations to pictures and drawings which they may not be able to do during classroom hours. It also enables definition of new terms to be made clearer and understandable. It also enables correct spellings of items and new discoveries to be accurately known.

Lecture materials would enable students to write down some points of interest which they would present to the class for discussion or to the teacher for further clarifications and detail explanation on topics which they found difficult to understand.

Lecture material can also direct students to the sources of related information on the concepts that the material is trying to explain. The sources could be web addresses, quality textbooks and journals, libraries, etc. This would help the student to undertake further research on the topic under discussion.

Lecture materials at times contain questions which students are expected to answer. These questions guide the students in assessing their understanding of the topic under discussion. Students attempt to answer the questions would make them to understand the topic more. Lecture material can also serve as a useful resource for students during examinations.

Most lecture materials are designed to include questions which are used as checklist during revision by students. Therefore, having a quality lecture material is important as it will guide both the lecturer and the student. What constitutes a quality lecture material is a material that conforms to standard that is set out by supervisory bodies. For instance, in Nigeria, the National University Commission (NUC) has a minimum benchmark of curriculum established for the entire course it approved. Every university is expected to teach students in accordance with the curriculum. A university may add to the contents of the curriculum so as to expand and make improvement, but cannot remove any topic from the curriculum. The contents of the NUC curriculum are integrated into the academic handbook that a department gives to its students.

It is important to ensure that lecturers are guided by the contents of the curriculum in the preparation of their lecture materials and students are exposed to the curriculum to enable them plan for their reading and preparation for examinations.

Developing appropriate lecture materials therefore requires the application of appropriate evaluation techniques. One major model for the learning evaluation is the Berkeley Evaluation & Assessment Research (BEAR model) developed at University of Berkeley. The BEAR model makes available a set of techniques which lecturers can use to measure their teaching impacts on the students and have a mechanism for feedback and follow-up. Wilson and Scalise (2006) posit that the model establishes that format and coverage of the instructional package have to be reflected on the tasks given. However, though the model correlates curriculum to lecture material development, it did not create a platform for the evaluation of lecture materials compliance to set standards.

This research therefore examines the use of NUC curriculum in preparation of lecture material given to students. The benefits of such assessment is as summed up by Wiggins, (2015) who is of the opinion that when evaluation is effective, there should be adequate feedback, teachers would be able to assess their progress, students' performance can be assessed and appropriate education standards could be set which would help in improving the overall performance of the academic system.

MATERIALS AND METHODS

The research involved administering structured questionnaire to 200 students selected randomly from University of Nigeria, Nsukka and Chukwuemeka Odimegwu Ojukwu University, Uli to elicit response on the use of lecture materials by students to prepare for lectures and examination. 100 questionnaires were administered to students of UNN while the other 100 were administered to students of COOU at their respective campuses. The questionnaires were all returned. Chi square was used to analyze the data collected from the respondents.

RESULTS AND DISCUSSION

Linkert scale which is a psychometric scale was adopted for the research. It was used to analyse the data but later Chi Square was used to test the hypothesis formulated for the research.

The normal Linkert scale that uses five alternative answers was used. The expected opinion ranged from strongly disagrees to strongly agree. The results allotted for each category ranged from 1 to 5. This is as shown below:

Strongly Agree	SA	5
Agree	A	4
Disagree	D	2
Strongly Disagree	SD	1

After the questionnaires are completed, the items were organized in groups of items for intervals and frequency to be established. A good consideration in the questionnaire development was the factors of equidistance and symmetry. The frequency counts were tabulated and the weighted mean which is the mean ($\bar{X}$) of the nominal values to the options was worked out. This is obtained from the formula:

$$\bar{X} = \frac{\sum x}{N}$$

Where $\bar{X}$ = mean

$\sum x$ = summation of the nominal values

N = Number of nominal values

The mean of the nominal value is equal to 2.5. From this concept, the weighted mean is calculated. Any value of the weighted mean of the frequency count that is equal to or greater than the nominal mean of 2.5 is accepted otherwise it is rejected.

Research 1

Table 1: Effect of teaching with lecture material

No	Question	SD	D	A	SA	Weighted mean	Decision
1	Teachers give students lecture materials for each course	76	66	33	25	3.1	Accepted
2	Lecture materials are developed topic by topic	82	77	21	20	3.1	Accepted
3	Lecture materials are in form of textbooks	52	55	49	44	2.5	Accepted
4	Teacher teaches in accordance to provided lecture materials	78	63	45	14	3.0	Accepted
5	Teacher sets examination only from the portion of the lecture material covered	18	25	62	95	1.8	Rejected

From the table above, the respondents agreed with item 1, 2, 3, and 4. This shows that they agreed that:

- i. Teachers give lecture materials for lecture
- ii. Lecture materials are developed topic by topic
- iii. Lecture materials are in form of textbooks
- iv. Teachers teach in accordance with lecture materials.

But the respondents reject question item no 5. This implies that they agreed that teachers set examination outside the portion of lecture material they covered.

Research Question 2

Table 2 Students Awareness on the Departmental handbook and its Contents

No	Question	SD	D	A	SA	Weighted mean	Decision
1	Department have copies of handbook that contain course content for all the courses that are taught in the department.	89	78	22	11	3.2	Accepted
2	Students have copies of the departmental handbook.	93	75	17	15	3.2	Accepted
3	Course content in department handbook is developed in line with NUC minimum benchmark	62	41	39	58	2.5	Accepted
4	Department handbook is developed in detail for each topic.	14	18	76	92	1.7	Rejected
5	Students use the handbook as reading guide to prepare for lectures	50	56	55	39	2.5	Accepted

From the table above, the respondents agreed with 1, 2, 3 and 5. They therefore agreed that:

- i. Each department has a handbook that contains the courses taught in the department.
- ii. Students have copies of the departmental handbook.

- iii. Course content contained in the handbook is developed in accordance with NUC Minimum Benchmark.
- iv. Students use the handbook to prepare for lectures

However, the respondents rejected question item No 4. This shows that departmental handbook is not developed in detail for each topic.

Research Question 3

Table 3: Importance of assessing lecture materials

No	Question	SD	D	A	SA	Weighted mean	Decision
1	There are common software that can evaluate lecture materials available in the school	15	23	64	98	1.7	Rejected
2	There is need to have software that will assess lecture materials	93	62	25	20	3.1	Accepted
3	The software would have interface for students to state the topic covered for each day	87	72	29	12	3.2	Accepted
4	The software would give percentage compliance of a lecture material with departmental handbook to enable the lecturer improve on the material	85	78	23	14	3.1	Accepted
5	The software would give the percentage covered in a course by a lecture	57	55	43	45	2.6	Accepted

Form the table, the respondents agreed with question item Nos. 2, 3, 4 and 5. This means that they agreed that:

- i. There is a need to have software that would evaluate lecture materials
- ii. The software would have interface where students would state the topic covered for the day
- iii. The software would guide the lecture in knowing the percentage compliance with the departmental academic handbook and how to improve if necessary
- iv. The software would give the percentage covered in a course in a semester

The respondents however rejected question item No.1. This means that they are not aware of any available software available in their school that can evaluate lecture materials.

Hypotheses

Chi Square was adopted for the test of hypotheses because it is ideal for random sampling which was used. The variables under study were categorized and each level of the categorized variable has an expected frequency counts.

Three hypotheses were formulated for further analysis of the results gathered from the questionnaire. These hypotheses are:

H0: Lecture materials do not guide students in course preparation.

H1: Lecture materials guide students in course preparation.

H0: There is no awareness among students on the importance of departmental academic handbook.

H1: There is awareness among students on the importance of departmental academic handbook

H0: There is no need for evaluation of lecture materials submitted by lecturers

H1: There is need for evaluation of lecture materials submitted by lecturers

Test of Hypothesis

Test of Hypothesis 1

Table 4: Effect of teaching with lecture guide cell row

No	SD	D	A	SA	Total
1	(61.2) 76	(57.2) 66	(42.0) 33	(39.6) 25	200
2	(61.2) 82	(57.2) 77	(42.0) 21	(39.6) 20	200
3	(61.2) 52	(57.2) 55	(42.0) 49	(39.6) 44	200
4	(61.2) 78	(57.2) 63	(42.0) 45	(39.6) 14	200
5	(61.2) 18	(57.2) 25	(42.0) 62	(39.6) 95	200
Total	306	286	210	198	1000

Table 5: Calculation of chi square on effect of teaching with lecture guide

Observed Oi	Expected Ei	Oi-Ei	$\Sigma(Oi-Ei)^2/Ei$
76	61.2	14.8	3.58
66	57.2	8.8	1.35
33	42.0	-9	1.92
25	39.6	-14	5.38
82	61.2	20.8	7.07
77	57.2	19.6	6.85
21	42.0	-21	10.5
20	39.6	-19.6	9.70
52	61.2	-9.2	1.38
55	57.2	-2.2	0.08
49	42.0	7	1.16
44	39.6	4.4	0.49
78	61.2	16.8	4.61
63	57.2	5.6	0.59
45	42.0	3	0.21
14	39.6	-25.6	16.55
18	61.2	-43.2	30.49
25	57.2	-32.2	18.13
62	42.0	20	9.52
95	39.6	55.4	77.50 = 207.06

X^2 Critical value at 0.05 level of significance and 12 degree of freedom is 21.0

X^2 calculated = 207.6

X^2 critical = 21.0

Degree of freedom = 12

Level of significance = 5%

Since X^2 calculated value exceeds the X^2 critical value i.e. $207.6 > 21.0$, we reject the Null hypothesis and accept H1 hypothesis which implies that lecture guide assists students in their learning.

Hypothesis 2

Table 6: Students Awareness on the Departmental handbook and its Contents

No	SD	D	A	SA	TOTAL
1	89	78	22	11	200
2	93	75	17	15	200
3	62	41	39	58	200
4	14	18	76	92	200
5	50	56	55	39	200
TOTAL	308	268	209	215	1000

Using the formula:

$$E(RC) = FR \times FC/N$$

Where $E(RC)$ = Expected frequency of cell row

FR= Total row frequency

FC= Total column frequency

N= Total frequency

The result of the computed expected frequency of cell row is shown in table 7 below.

Table 7: Computed frequency of cell row.

No	SD	D	A	SA	TOTAL
1	(61.6) 89	(53.6) 78	(41.8) 22	(43.0) 11	200
2	(61.6) 93	(53.6) 75	(41.8) 17	(43.0) 15	200
3	(61.6) 62	(53.6) 41	(41.8) 39	(43.0) 58	200
4	(61.6) 14	(53.6) 18	(41.8) 76	(43.0) 92	200
5	(61.6) 50	(53.6) 56	(41.8) 55	(43.0) 39	200
TOTAL	308	268	209	215	1000

$$X^2 = \sum (O_i - E_i)^2 / E_i$$

$$\begin{aligned} \text{Degree of Freedom (DR)} &= (R-1) (C-1) \\ &= (5-1) (4-1) \\ &= 4 \times 3 \\ &= 12 \\ &\text{At 0.05 level of confidence} \end{aligned}$$

Table 8: Calculation of Chi-Square for awareness on departmental handbook

Observed O_i	Expected E_i	$O_i - E_i$	$\sum (O_i - E_i)^2 / E_i$
89	61.6	27.4	12.18
78	53.6	24.4	11.10
22	41.8	-19.8	9.37
11	43.0	-32.0	23.81
93	61.6	31.4	16.01
75	53.6	21.4	8.54
17	41.8	-24.8	14.71
15	43.0	-28	18.23
62	61.6	0.4	0.00
41	53.6	-12.6	2.96
39	41.8	-2.8	0.19
58	43.0	15	5.23
14	61.6	-47.6	36.78
18	53.6	-35.6	23.64
76	41.8	34.2	27.98
92	43.0	45	55.84
50	61.6	-11.6	2.18
56	53.6	2.4	0.11
55	41.8	13.2	4.16
39	43.0	-4	0.37 = 273.37

X^2 Critical value at 0.05 level of significance and 12 degree of freedom is 21.0

X^2 calculated = 273.37

X^2 critical = 21.0

Degree of freedom = 12

Level of significance = 5%

Since X^2 calculated value exceeds the X^2 critical value i.e. $273.37 > 21.0$, we reject the Null hypothesis and accept H_1 hypothesis which implies that students are guided by their departmental academic programme handbook.

Hypothesis 3

Table 9: Effect of Evaluating lecture guide

No	SD	D	A	SA	Total
1	(67.4) 15	(58.0) 23	(36.8) 64	(37.8) 98	200
2	(67.4) 93	(58.0) 62	(36.8) 25	(37.8) 20	200
3	(67.4) 87	(58.0) 72	(36.8) 29	(37.8) 12	200
4	(67.4) 85	(58.0) 78	(36.8) 23	(37.8) 14	200
5	(67.4) 57	(58.0) 55	(36.8) 43	(37.8) 45	200
Total	337	290	184	189	1000

Table 10: Calculation of Chi-Square on effect of evaluating lecture guide

Observed Oi	Expected Ei	Oi-Ei	$\Sigma(Oi-Ei)^2/Ei$
15	67.4	-52.4	40.7
23	58.0	-35.0	21.1
64	36.8	27.2	20.1
98	37.8	60.2	95.9
93	67.4	25.6	9.7
62	58.0	4.0	0.3
25	36.8	-11.8	3.8
20	37.8	-17.8	8.4
87	67.4	19.6	5.7
72	58.0	14	3.4
29	36.8	-7.8	1.7
12	37.8	-25.8	17.6
85	67.4	17.6	4.6
78	58.0	20.0	6.9
23	36.8	-13.8	5.2
14	37.8	-23.8	14.9
57	67.4	-10.4	1.6
55	58.0	-3.0	0.2
43	36.8	6.2	38.4
45	37.8	7.2	1.4 = 301.6

X^2 Critical value at 0.05 level of significance and 12 degree of freedom is 21.0

X^2 calculated = 301.6

X^2 critical = 21.0

Degree of freedom = 12

Level of significance = 5%

Since X^2 calculated value exceeds the X^2 critical value i.e. $301.6 > 21.0$, we reject the Null hypothesis and accept H1 hypothesis which implies that there is a need to have software that can evaluate submitted lecture guides.

CONCLUSIONS AND RECOMMENDATIONS

The result of this research clearly shows that the students in Nigerian universities are guided by lecture materials in preparation of lectures and examination. The result equally shows that students are aware of departmental handbook which they were introduced to at the point of registering in the department. The course content contained in the handbook is developed in accordance with NUC Minimum Benchmark. The lecture materials are developed in accordance with departmental handbook. Teachers teach in accordance with lecture materials given to the students. Some teachers however set questions for examination outside the portion of lecture material they covered.

There is however a need to have software that would evaluate lecture materials. The software would have interface where students would state the topic covered for the day. The software would guide the lecture in knowing the

percentage compliance with the departmental academic handbook and how to improve if necessary. The software would also give the percentage covered in a course in a semester.

The result of this research would help lecturers to improve the contents of lecture materials. A product is never perfect, but it can continuously be improved upon to meet up new discoveries and challenges. With that the skills of lecture materials development are also improved. The students' understanding of a topic is also enhanced.

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BIO-DATA

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