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Perturbations in lecturer-student sessional performance: A cause for great concern in education quality and sustainability

Ezeanyim O C[1*], Ejichukwu E O[1], Omoyi C O[2], Osazuwa K O[3], Nnanwuno C P[1]
[1] Department of Industrial and Production Engineering, Nnamdi Azikiwe University, Awka, Nigeria
[2] Department of Mechanical Engineering, University of Calabar, Cross Rivers state, Nigeria
[3] Department of Mechanical Engineering, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

Abstract
Performance appraisal is becoming more widely recognized as a valuable instrument for staff development and advancement in organizations. In every learning institution, periodic assessment of lecturers/teachers, is a necessity. Multiple metrics of lecturer performance should be included in a successful lecturer assessment system. This study therefore, explores the effectiveness of lecturers and the performance of lecturers in teaching various courses, using the grades of students as an indicator. To achieve this, data was collected from a department in a university, south east Nigeria. The study utilized a descriptive sampling research design method while the final year undergraduate students for five academic sessions, were used as the target population. Non probability sampling technique was used to arrive at the study sample of 19 lecturers involved. The effectiveness of teaching was analyzed using the ANOVA technique. The results showed Fcal (4, 90) and Fstatistics = 3.73 < 0.05, indicating that a significant difference exists between the performances of lecturers across the five academic sessions. Hence, there are aspects of lecturers' performance that are less than excellent and which require further improvement.

Keywords: Lecturer evaluation, teaching evaluation, teaching effectiveness, student performance, ANOVA

Introduction

Teaching at any level of education aims to bring change in the learner. A teacher plays a primary role is the delivery of quality education to students, hence their performance becomes a key area of concern (Taal 1996) [17]. Teacher effectiveness has been of interest to policy makers, educators, and parents. The effectiveness of the teaching carried out by lecturers has always been of great concern. Academic performance has long been used as a symbol to measure a school's success (Bell 2013) [5]. Afe (2001) [1] affirms that the effectiveness of the teaching-learning process certainly influences a student's academic achievement. It is a general notion that students who fail the examinations were not properly taught, whereas it is assumed that students who excel had very effective teachers. Further research by same author, has also shown that a teacher's effectiveness has an influence on the students' academic attainment.

Lecturers play an important role in providing education to students. Lecturers do not only transmit cognitive knowledge and information, but they also serve as advisors, counselors and observers to students activities on campus. Van-Rensburg *et al*, (1993) [18] argued that, it is the duty and responsibility of lecturers to supervise students work, and to provide meaningful and useful feedback. It should be a prime concern for lecturers to generate and discover new ideas through academic activities and research.

Lecturers are teachers and they require quick and comprehensive feedback on their performance. The appraisal process for the university system is an administrative exercise that should also showcase the competencies of each lecturer. Performance evaluation is carried out for appraisal (which relates to salary increase, promotion, removal from office or retirement) and improvement, feedback and planning purposes. Sing Ong Yu (2016) [21] argues that for a teacher evaluation model to be effective, the university must consider other measures such as student achievement, content knowledge, instructional planning, delivery and classroom management. Whatever evaluation process that is chosen has to be measurable and reliable. The effectiveness of any lecturer evaluation process is primarily determined by how well the evaluation criteria are designed and assessed.

Various lecturer assessment methods have been proffered by researchers. One that is widely accepted is the idea of student assessing their lecturers. According to Wachtel (1998) [20] evaluating the performance of lecturers by students started in the early 90's. This became accepted by most universities and is probably one of the sources of getting reliable information about lecturers' teaching efficiency. This method serves as a means of involving student in the institutional quality assurance system. In fact, students observe whatever goes on in the classroom throughout the course of study in the university, hence using students' to assess and evaluate their lecturers should be taken seriously by both lecturers and administrators.

Undergraduate students require lecturers to be emotionally stable, experts in their field and be orderly and well prepared. Students fancy lecturers who are knowledgeable, effective, compassionate, and behave in a manner that is socially acceptable to them (Vrey, 1993). Students prefer lecturers who treat them as humans and make them think in class. Conversely, students shy away from lecturers that appear incompetent, self-centered and partial (Goulden *et al*., 1997) [10].

The low academic performance of students at higher education levels has largely been cited as a result of ineffective teaching methods (Elvis M. G, 2013) [8]. Results

from student's assessment of lecturers can be useful in understanding the mindsets of the students and their perception of lecturers' teaching methods (Mc Gregor, 1993). This has shown to enhance lecturers' teaching skills as well improve the overall learning process. The assessments of students' should also serve as a useful tool in matters such as renewal of contracts, appointments and promotions (Morton, 1997) [16].

The perceived decline in student final cumulative grade point average (FCGPA) for the department being understudied and in line with project 200 drive of that university's current administration, has necessitated this timely research and viewpoint. And for academic institutions to thrive on quality, it is vital to get feedback from recipients of this teaching, through course-lecturer evaluation by students' performance or by the students themselves. This paper therefore aims to investigate and ascertain, if there are significant difference in performance of lecturers' across five-year academic sessions, for a department in a university. The ensuing results of this study will provide useful insights on the students' academic performances based on the varying effectiveness in teaching, done by lecturers in the department across the session. This will provide a clear list of lecturers that may obviously need to improve on their art and effectiveness in teaching practices.

Research Methodology

The research design for this study included both descriptive and quantitative research design, which were chosen in considering the purpose of the study and the size of the target population. Descriptive research involved the use a questionnaire for fact finding and enquiries. Quantitative research approach involves the generation of data in quantitative form which can be subjected to rigorous quantitative analysis. The data gathered included primary information from the examination records and questionnaires. The data gotten from the department were reliable and valid. Hence, they needed no further validation as they had formed operational documents within the department and university before now, during and after this research work is concluded.

The questionnaire administered to students in the department for the purpose of ranking and consisting of selected close-end questions in terms of personal preference and importance. The questionnaire also gathered the views of students with respect to lecturer teaching effectiveness, service delivery and overall system performance.

The target population for this study was the academic staff of a department in a University, South East, Nigeria as well as the 500 level students of that department, for the five-year period under review. The study adopted non-probability and purposive sampling technique, in selecting lecturers of the department who handled courses in 500 level. The purposive sampling technique ensured that lecturers were assessed based on students' average performance in taught courses or supervised research activities. The Analysis of Variance (ANOVA) approach examined the nature of variations in lecturer-student performances, across the five academic sessions.

Data Presentation

The data obtained was used to compute the percentage performance of students who scored above 50 marks in different courses. This helped us generate secondary data which were used in analyzing each lecturers' average performance first for each session, taking into consideration the number of courses the lecturer was involved in and then through 5 academic sessions to determine the individual's overall performance.

Lecturers' codification introduced in this study was done to ensure the anonymity of all key participants, and to avoid victimization of any sort in the aftermath of any negative findings in connection with their professional duties. The table below summarizes the average performance of lecturers in codes for all 500 level courses taught within the department, for each semester per session for five yearly academic sessions understudied and as a measure of teaching effectiveness, based on students' performance. Note also that, the coding adopted for lecturers was to avoid punitive measures and probable bias during this research.

A summation of average performance of every departmental lecturer that taught one or more final year course(s) between 2014/2015 and 2018/2019 session was taken.

Table 1: Cumulative Lecturers' Performance.

Session/ Lecturer	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	Cummulative average Performance
001		86.72	79.00	70.98	82.28	79.76
002	46.93	27.91	57.45	64.48	70.08	53.37
003	61.16					61.16
004	74.55	88.90	60.63	55.51	87.10	73.33
005	61.81	67.05	33.61	61.65	71.52	59.13
006	72.73					72.73
007	61.19	74.43	54.70	62.77	77.72	66.12
009	78.57	90.82	72.04	61.86	94.73	79.60
010				91.18	75.81	83.49
011	76.60	77.09				76.85
012					87.50	87.50
013	75.80	68.12				71.96
014					84.00	84.00
015					88.91	88.91
017					75.86	75.86
018					76.48	76.48
019					72.41	72.41
020					80.90	80.90
030	71.93					71.93

Results from various set objectives as well as primary and secondary data developed from five consecutive academic sessions are presented for analysis of teaching effectiveness of the work force in focus and will form a good basis for effective performance assessment and feedback.

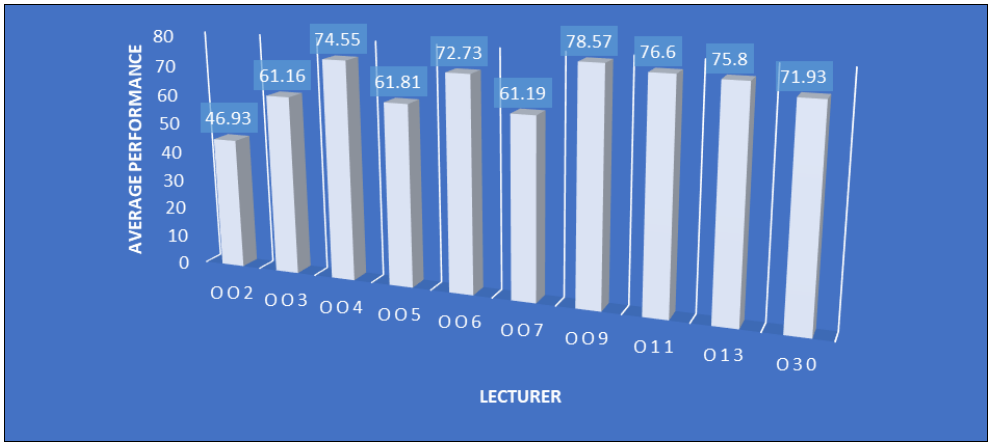

Fig 1: Plot of lecturer performance for 2014/2015 session

The yearly performance of students in departmental courses taught by lecturers' in one or more final year course(s) between 2014/2015 and 2018/2019 session, was computed and is shown in the figures below. With specific codes assigned to lecturers, Figures 1 to 5 displayed the summary of every lecturer's performance across each session, gathered from the performance of students in course(s) taught by them. The percentage performance of lecturers was deduced from the number of courses taught by each lecturer to determine their individual average performance.

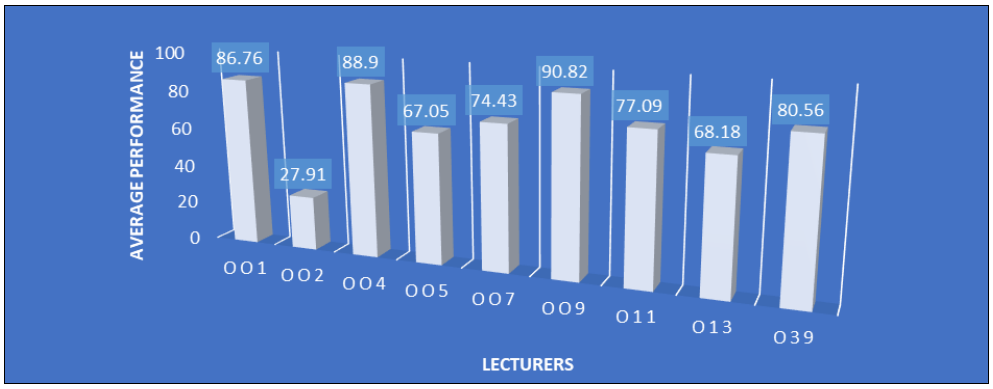

Fig 2: Plot of lecturer performance for 2015/2016 session

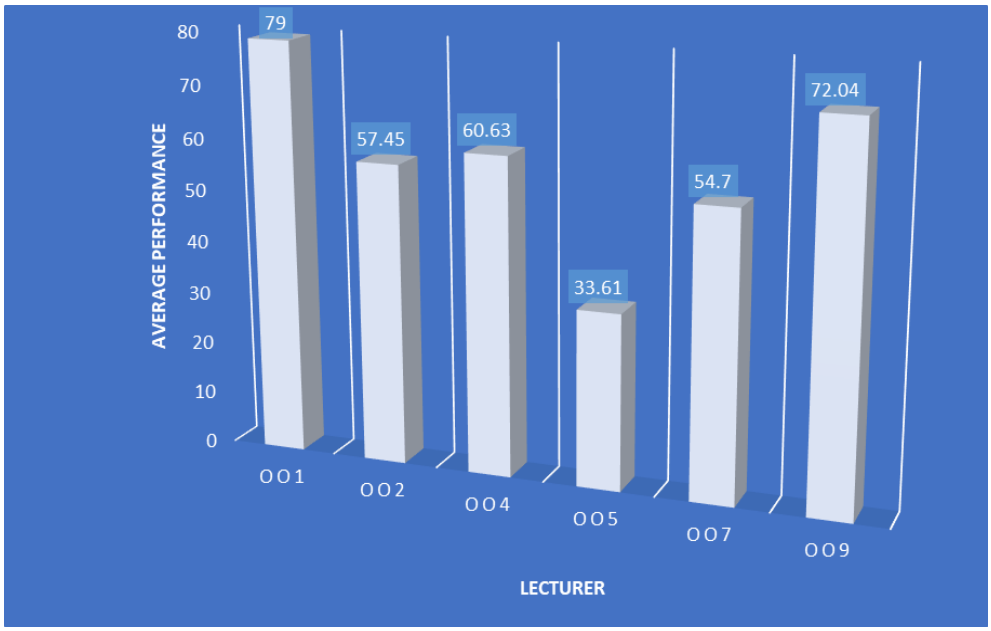

Fig 3: Plot of lecturer performance for 2016/2017 session

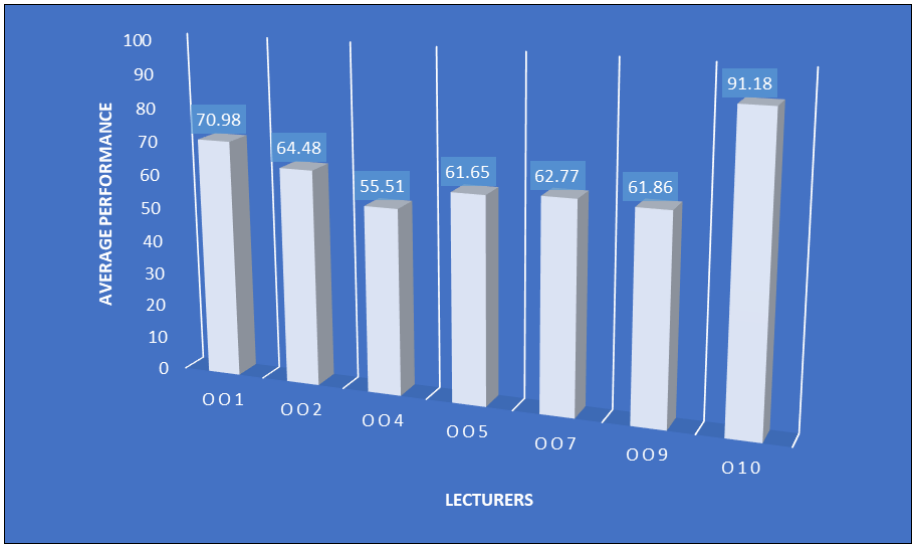

Fig 4: Plot of lecturer performance for 2017/2018 session

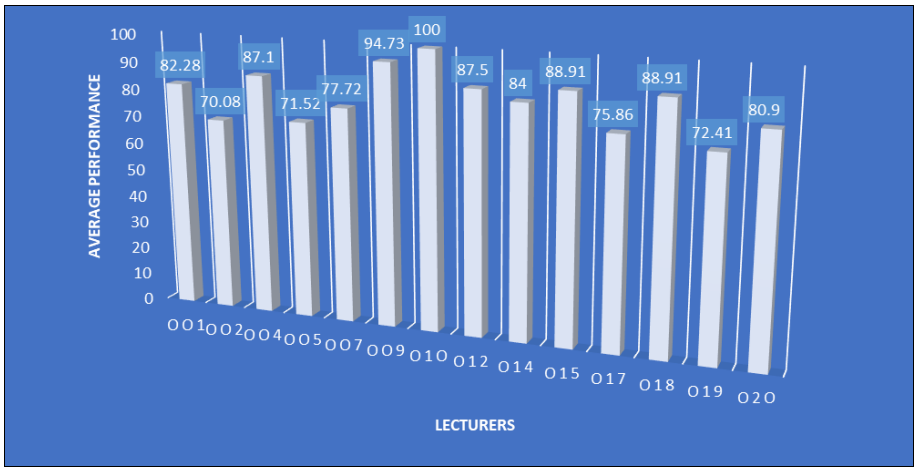

Fig 5: Plot of lecturer performance for 2018/2019 session

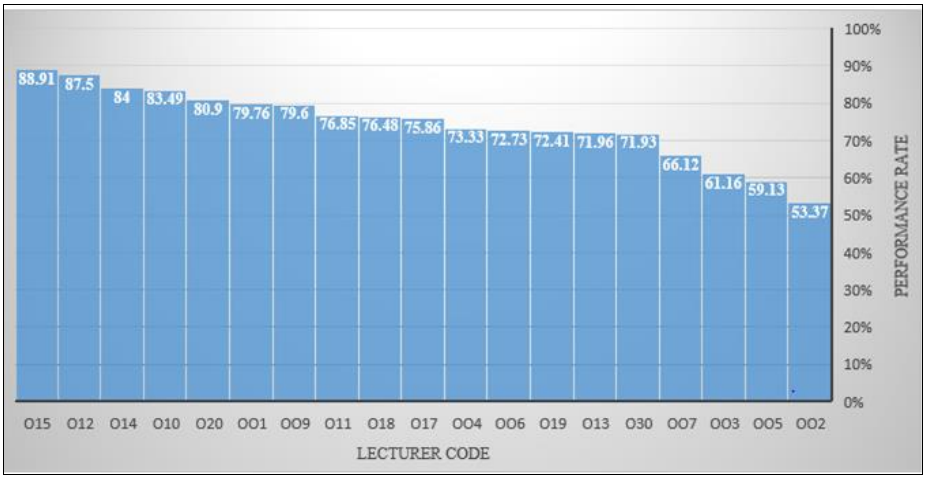

Fig 6: Plot of overall lecturer performance for 2014/15-2018/19 sessions

The overall average performance of students in every departmental course taught by lecturer(s) in one or more of these final year course(s), between 2014/2015 and 2018/2019 session was computed as shown figure 6 above.

Analysis Of Variance (ANOVA)

In examining the nature of variations in performance within the sessions being understudied and in line with the project objective, the Analysis of Variance (ANOVA) technique, was used in determining the variability in student's academic performance and performances of lecturers for five academic years. ANOVA as a statistical tool, was used to ascertain if there were any statistically significant differences between two or more independent groups involved in a system. It equally checked the impact of one or more factors by comparing the mean of different samples displayed.

Null hypothesis and alternative hypothesis

Ho: =

Hi: not all u's are equal

Calculating test Statistics

SS between..... Equation 1

2014/2015: 46.93 + 61.16 + 74.55 + 61.81 + 72.73 + 61.19 + 78.57 + 76.68 + 75.80 + 71.93 = 681.29

2015/2016: 86.72 + 27.91 + 88.90 + 67.05 + 74.43 + 90.82 + 77.09 + 68.12 = 581.04

2016/2017: 79.00 + 57.45 + 60.63 + 33.61 + 54.70 + 72.04 = 357.43

2017/2018: 70.98 + 64.48 + 55.51 + 61.65 + 62.77 + 61.86 + 91.18 = 468.43

2018/2019: 82.28 + 70.08 + 87.10 + 71.52 + 77.72 + 94.72 + 94.73 + 75.81 + 87.50 + 84 + 88.91 + 75.86 + 76.48 + 72.41 + 80.90 = 1125.3

$681.27^2 + 581.04^2 + 357.43^2 + 468.43^2 + 1125.3^2 = 2415219.25$

$T^2 = 681.27 + 581.04 + 357.43 + 468.43 + 1125.3 = 3213.47^2 = 10,326,389.44$

Substituting into Equation1, SS within =

Where = Square root of all the values of the observation

219,806.84 - 108,698.4 = 111,108

TOTAL = 18,417.96 + 111,108 = 129,525.96

Ms between:

Ms within =

F =

Calculating the DOF, Where N = 95 and K = 5,

DF between: k-1=5-1=4

DF within: N – K = 95 – 5 = 90

DF total = N – 1 = 95 - 1= 94

F critical from the distribution table alpha 0.05 = 2.473

Discussions of Results

The quality of teaching is most often determined and as portrayed by the performance of students. The hypothetical framework or concept that that the summary of lecturers' effectiveness in teaching, research and service delivery can be measured and also is directly proportional to the success or failure in students' cumulative performance, fuelled the desire for this research work and according to available literature. The effectiveness of teaching activities for five year duration, for a department in a university, has been effectively evaluated using students' results and percentage performances, to measure lecturers' teaching efficiency in final year students only.

A total of 19 lecturers involved in the teaching of 500 level courses in that department were appraised. It was observed that about 5 lecturers performed at 80% and above, 9 averaged performances between 70-79% while 4 performed within 50-60% score.

A greater number of lecturers performed averagely and those who crossed the 80% mark are believed to have performed better than others, in delivering their duties and carrying out their responsibilities as lecturers in the department.

Four lecturers fell between the 50-69% marks. This does not ultimately indicate poor performance but tells us that there is need for improvement in order to achieve maximum productivity.

Lecturers in the department have done fairly well over the years in 500L course teaching, with cumulative performances above 80% and none below the 50% mark. This also implies that there is need for greater effort to be able to achieve maximum productivity.

Table 2: The ANOVA summary

	SS	DF	MS	F statistics	F critical
Between	18,417.97	4	4604.49	3.73	2.473
Within	111,108.75	90	1234.54		
Total	129,526.75	94			

Since F Statistical is greater than F critical from the F the distribution table: the null hypothesis was rejected. The performance of lecturer across the five academic sessions is given as F (4, 90) = 3.73 < 0.05 and implicative of significant variation in performances within academic sessions.

Observations from analysis outcome have also shown that a great number of the lecturers performed averagely while those exceeding the 80% mark performed better at delivering their duties and responsibilities whereas lecturers that fell within the 50% mark, may need improvement.

Conclusion

The study has created an important milieu for lecturers in the department and the university as a whole, in uncovering the underlying factors behind the perception of students on taught courses' performances, as also a measure of their lecturers' performance. This method of lecturer performance appraisal compares past facts with present observations in order to improve future outcome for improvements and curtail these visible variations across academic sessions which are possibly due to several factors of low motivation, strikes, student intelligence quotient, environmental factors etc. These and many more are areas open to the university's management and indeed government and non-governmental agencies saddled with the growth of this sector as it contributes immensely to human capital development aimed at growing any nation's economy.

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