

Determining Lecturers' Test Scoring Knowledge by Level of Working Experience: A Case Study of Tertiary Institutions in Zamfara State

Bashir USMAN and Ocheola INNOCENT EWAOICHE

Abstract

This paper assessed test scoring knowledge of tertiary institution lecturers in Zamfara State. It determined the proportion of low experience, quite experience, average experience and high experience lecturers with high, average and low scoring knowledge. It also finds out whether significant differences exist in lecturers' tests scoring knowledge by level of working experience. The paper answered one research question and tested one hypothesis at 0.05 level of significance. Population of this study consists of 300 lecturers in Zamfara State that were sampled through multi stage cluster sampling. Survey design was employed for the study. Teachers Test Scoring Scale (TTSS) was adopted as instrument of data collection. Similarly, out of 300 instruments administered to lecturers only 289 were retrieved, yielding 96.3% response rate. Analysis of Variance (ANOVA) was used for the analysis of data. The result of the study revealed that tertiary institution lecturers in Zamfara state are knowledgeable of test scoring and that their scoring knowledge does not differ significantly by level of working experience. The study recommended in-service training, workshop, monitoring of assessment from test construction, administration to test scoring. It also recommended creation of assessment policy such as preparing marking scheme in tertiary institution.

Key Words: Test Scoring Knowledge, lecturers Level of working experience.

Introduction

Tertiary institutions were established for the purpose of post secondary school teaching and learning. In order to ascertain whether or not learning has taking place, lecturers try to evaluate students. This process of evaluating learners is commonly known as assessment. It is the process by which lecturers collect data about overall learning progress for students' promotion, placement and graduation. Evaluating students' learning progress and achievement is determine using scores obtained from instrument known as Test. The Federal Republic of Nigeria, (FRN, 2004) recognized the importance of test in certification of tertiary institution students when it stated succinctly that; certification of tertiary institution students shall be based on overall test scores obtained by them from series of continuous measurements and judgment in form of end-of semester examination. Test scoring is therefore an essential component of assessment that is gaining increasing attention in education in recent years. Educational researchers now recognized that test scoring knowledge act as instrument through which both lecturers and students can benefit enormously. Sidhu, (2005) put forth

Bashir USMAN, Quality Assurance Service Department, Ministry of Education H/Q Gusau, Zamfara State
Ocheola INNOCENT EWAOICHE, Sky Line University, Kano, Nigeria

that “scoring is a relative judgment of student’s item response”. It is an aspect of testing that has to do with making judgment about response to test items and assigning numerical values to the responses. In particular, Sidhu, (2005) point out the functions of test scores is to provide feedback to lecturers and students regarding extent to which instructional objectives are achieved, account to parent on the achievement and progress of their children, help in identifying student academic areas of strength and weakness and determining students’ promotion, placement and graduation. The role of scores is very important as tertiary institution rely on them to account for students’ learning outcome. Test scores do not only provide extent of mental ability of learners in tertiary institutions. Rather it provides extent of other aspect of human behavior such interest and attitude. From the point of view of lecturers knowledge of other aspect of behavior places them in a strong point to utilize such information for educational and vocational purposes. Lecturers function not only as instructors but counselors and psychologist, using test scores they assist students whose performance are affected by attitude and interest with counseling advice like inter faculty, change of course, deferring program or even withdrawal. Hence, test scores have become an important aspect of our educational culture that both lecturers and students attach great importance not only to scores but also how the scores was conducted and the relationship between the scores and grades that are awarded. Meanwhile, according to Osuji, Okonkwo, & Nnachi, (2006) there are different tests scoring techniques, and the use of a particular technique is determined by examinee freedom of expression. Multiple choice tests are scored via: Strip key; in this method answers to tests items are scored by direct comparison of the examinees answer with the marking keys. Scoring stencils: this is prepared by pending holes on blank answer sheet where the correct answers are supposed to appear. Scoring is then done by laying the stencils over each sheet and numbers of answers checks through the holes are counted. Machine Scoring: this involved scoring students response with computer and other possible scoring devices using certified answer keys prepared for the tests item. While essay tests are scored through: analytical or point method: in this method each answer is compared with already prepared ideal marking scheme (scoring key) and marks are assigned according to the adequacy of the answer. Global method: In this method examiner first sort the responses into categories of varying quality base on his general impression on reading the responses. The motivation behind this study is to seek whether lecturers are equip with efficient and appropriate test scoring knowledge that will enable them evaluate student fairly and effectively.

However, the consistency of any education system especially tertiary institution relies upon the quality and competence of lecturers, hence become the most important factor in tertiary institution system. This is because they are the main focus in learning process and outcome of learning depend on lecturers. Meanwhile, students learning cannot be complete until when their taught are assessed through test, otherwise known to be the systematic method of gathering data that will be use to judge students’ level or degree of performance. Test undergo construction, administration and scoring and the later which is the area of concern require possession of sufficient and appropriate skill and knowledge in selecting and employing consistence and appropriate scoring strategies. The National Council on Measurement in Education (NCME) have developed standards for Educational Assessment, among the standard is describing the knowledge and skills of selecting and employing appropriate scoring strategies. Meanwhile knowledge of test scoring among lecturers can vary as a result of many factors some of which are their field of knowledge, qualification and years of working experience. Others include age, gender, attitude, perception and competence among others. However, in this paper lecturers in tertiary institutions were reviewed by level or years of lecturers’ working experience. Due to the fact that, the higher the extent of working experience, the higher the chances of exposure to different scenarios concerning test scoring. Therefore the study reviewed lecturers’ test scoring knowledge by level

of working experience to determine their proportion and finds out whether the differences exist in level of working experience can influence test scoring.

However, from personal experience tertiary institution lecturers in Zamfara State seem to have insufficient test scoring knowledge; they rather score students' test script without adopting any scoring technique and without developing marking scheme. They also fill reluctant in going through any requisite procedure of test scoring. Past researches such as Sani (2014), Hamman-tukur, & Hamafyelto, (2015), Bello (2018) has shown lack of adequate knowledge base regarding the test scoring strategies; limited training in assessment and failure to employ and adhere to measurement guideline learned in pre-service/in-service measurement courses. Per halves, insufficient test scoring knowledge affects tertiary institution assessment process by hindering determining students learning outcome and will go long way to establish student mistrust and unacceptability of scores from lecturers. Similarly, it affect Cumulative Grade Points Average (CGPA) earn by students after graduation, that is error score which may be higher or lower than the true score, this can have serious implication as qualified applicant is rule out for being accepted for a job and lead to incorrect job placement to applicant who lack required skills. Hence, this research determines proportion of lecturers with high, moderate and low test scoring knowledge and also investigates test scoring knowledge differences (if any) on lecturer's field of knowledge.

The result of the studies makes an input in the present state of tests scoring knowledge in tertiary institutions of Nigeria. It help tertiary institutions determine the existence or other wise of inadequate scoring knowledge among their lectures and need for in-service training on assessment practice. And also the result of this studies encourage tertiary institution to enforce rigorous use of assessment skills through ensuring that lecturers have the necessary knowledge, skills and attitude on marking/scoring tests which is important in improving assessment practice. The outcome of this studies provide additional knowledge of establishing valid, reliable, accurate test scores, which go long way to establish student trust and acceptability of scores from lecturers. The result of this study probably convinced student, parents and the general public that the cumulative grade points awarded to students (CGPA) can be valid. The study also adds to body of knowledge on scoring/marking at school level and how lecturers should mark or score tests.

The study was conducted in Zamfara State of Nigeria, and the scope cover all lecturers of university, colleges of education and polytechnics in the state with different qualification and field of knowledge, as well as years of working experience. Furthermore, the study focuses on investigating lecturers' test scoring knowledge proportion. Theoretically, Classical Test Theory (CTT) was use for the study, due to its relevance to test scoring.

The study excluded variables like age, teaching subject and gender. Similarly, the study also excluded Monotechnics lecturers (such as College of Health Technology Tsafe, School of Nursing and Midwifery Gusau, College of Agricultural Science Bakura, etc) in Zamfara State, it also excluded lectures of Distance learning institution such as National Open University of Nigeria (NOUN), National Teachers Institution (NTI) as well as Lecturers of Private tertiary institution in Zamfara State. Item Response Theory (IRT) was delimited from the study.

Objectives of the Study

The objectives of the study were to determine:

- i. The proportion of lower experienced, quite experienced, average experienced and high experienced lecturers with high, average and low test scoring knowledge in Zamfara State.

- ii. The test scoring knowledge difference among lower experienced, quite experienced, average experienced and high experienced lecturers in Zamfara State.

Research Question

The study answered this research question.

What is the proportion of lower experienced, quite experienced, average experienced and high experienced lecturers with high, average and low test scoring knowledge in Zamfara State?

Research Hypothesis

The study formulated and tested hypothesis below at 0.05 level of significance

There is no significant difference in the mean score of test scoring knowledge among lower experienced, quite experienced, average experienced and high experienced lecturers with high, average and low test scoring knowledge in Zamfara State.

Methodology

Survey design was adopted for the study. This is because survey designs are procedure in quantitative research that gathers data from sample of population to represent entire population at a particular point in time with intention of describing the nature of existing condition or identifying standard condition that can be compared (Cohen, Manion & Morrison, 2007). Therefore, it enables the researcher gather descriptive data from sample of lecturers to enable generalization on the entire lecturers in the study area about their test scoring knowledge. Survey design also enable the researcher find out whether test scoring knowledge differences exist among lectures based on field of knowledge.

The population of the study comprises all lecturers in Zamfara State. According to Zamfara State Directorate for Higher Education (2020), they were one thousand nine hundred and eighteen (1918) lecturers (comprising of males 1542 and 376 females) from tertiary institution in Zamfara State. This shows that about 80% of the lecturers were male, while 20% were female. The lecturers in university were six hundred and three (603 [32%]), colleges of education, five hundred and ninety seven (597 [31%]) and polytechnics, seven hundred and eighteen (718 [37%]). The lecturers are of different in field of knowledge (i.e. Education, Engineering, Humanities, Science, Social and Management Science). A sample size of 300 was used in this study based on the recommendation of Research Advisors (2006) table for determination of sample size. Research Advisors 2006 is a set of sample size level of about 500 to optimally estimate a single population parameter set by professional researchers (Krejcie & Morgan 2017). In drawing sample size, multi-stages cluster sampling technique was used in this study. This is because multi-stage sampling entails two or more stages of random sampling based on hierarchical structure of natural clusters within the population (Sedgwick, 2015).

'Teachers Test Scoring Scale (TTSS)' was adapted as an instrument of data collection. TTSS was subjected to Content Validity Index (CVI) by administering it to panel of ten (10) experts for determining degree of item relevance using four scales of relevance Index which revealed average proportion of relevance across all items (S-CVI/Ave) as .95 and average of universal agreement across all items (S-CVI/UA) as .88, and thus considered valid. Similarly, TTSS was pilot tested to thirty (30) lecturers in Zamfara State. The internal

consistency reliability Test-retest reliability was used and coefficient of .86 was obtained using Pearson product Moment Correlation (PPMC). Hence, considered relative strong and highly reliable in assessing lecturers test scoring knowledge.

The data of this study was analyzed using Statistical Package for Social Sciences (SPSS version 25). The research question was answered using descriptive statistics in the form of frequency count and simple percentages. One hypothesis was tested using inferential statistics in the form of ANOVA. According to Cohen, Manion & Morrison, (2007) ANOVA is premised on the same assumption as t-test, that is random sampling, normal distribution of scores, homogeneity of variance, parametric data and it can be used with three or more groups.

Results of the Finding

4.3.1 Answer to Research Question

The research question was answered below using data organization

Research Question: What is the proportion of low experienced, quite experienced, average experienced and high experienced lecturers with high, average and low test scoring knowledge in Zamfara State?

Table 1	Proportion of low experienced, quite experienced, average experienced and highly experienced lecturers' with High, Average and Low Test Scoring Knowledge in Zamfara State.					
	Low Knowledge		Average Knowledge		High Knowledge	
	Freq.	%	Freq.	%	Freq.	%
Low Experienced	10	27	62	33	21	34
Quite Experienced	13	35	60	31	15	24
Average Experienced	05	14	35	19	07	11
Highly Experienced	09	24	33	17	19	31
Total	37		190		62	

Table 1 shows that 27%, 33% and 34% of lecturers with low experienced have low, average and high knowledge of test scoring respectively. It also revealed that 35%, 31% and 24% of quite experienced lecturers have low, average and high knowledge of test scoring knowledge. The table also revealed that 14%, 19% and 11% of average experience lecturers have low, average and high knowledge of test scoring. Lastly, 24%, 17% and 31% of high experienced have low, average and high knowledge of test scoring knowledge.

Hypotheses Testing

One hypothesis was raised and tested at 0.05 level of significance.

Hypothesis: There is no significant difference in the mean score of test scoring knowledge among lower experienced, quite experienced, average experienced and high experienced lecturers with high, average and low test scoring knowledge in Zamfara State.

Table 2 Descriptive Statistics on Lecturers' Test Scoring Knowledge by levels of Working Experience in Zamfara State.				
Level of Working Experience	Mean	N	S.D	Std. Error
Low Experienced	16.35	93	2.903	.30431
Quite Experienced	16.00	88	2.881	.30709
Average Experienced	16.19	47	2.726	.39349
Highly Experienced	16.50	61	3.082	.39144

Table 2 above shows the mean scores of lecturers' test scoring knowledge based on years of working experience. From the mean lecturers with high working experience had the highest mean scores of 16.50, followed by lecturers with low working experience with a mean score of 16.35, then quite working experience with 16.19 mean and at the bottom end were lecturers with average working experience with 16.00 mean scores.

Table 3 Analysis of Variance of Lecturers' Test Scoring Knowledge by levels of Working Experience in Zamfara State.				
Test-Scoring Knowledge	Sum of Square	Df	F-cal	Sig.
Between Groups	24.718	15	1.325	.186
Within Groups	339.580	273		
Total	364.298	288		

Table 3 shows Analysis of Variance of lecturers' test scoring knowledge by years working experience. From the table, the p-value of .186 is greater than α level of 0.05 level of significance with degree of freedom 15. Thus, the null hypothesis, which stated that there is no significant difference in lecturers' knowledge of test scoring by years of working experience, is therefore accepted. Meanwhile no significant difference was observed in lecturers' knowledge of test scoring among lecturers' of different years of working experience.

Discussion of Findings

The finding from the study revealed 35%, 31% and 24% of quite experienced have low, average and high knowledge of test scoring knowledge lecturers. It also revealed that 14%, 19% and 11% of average experience lecturers have low, average and high knowledge of test scoring. Lastly, 24%, 17% and 31% of high experienced have low, average and high knowledge of test scoring knowledge. The variation in scores used to determine proportion of lecturers with high, average and low knowledge of test of scoring may be due to lecturers' attitude, competence, perception or ability, and may also occur due to numerous factors such as guessing or fatigue. It also revealed that lecturers in Zamfara state do not significantly differ in knowledge of test scoring by level of working experience.

The finding in this study is in compliance with theoretical assumptions of classical test theory (CTT) which reflected that each person has true score or error score on the trait being measured, been it a body of knowledge or competence in a skill. Similarly, Abdulrashid,. (2012), McMorrissh, & Boothnoyd, (2013), Sani (2014)

and Bello, (2018), Compare to this study, they are in agreement as they revealed teachers are knowledgeable of test scoring and there is no significance difference among respondent in test scoring knowledge by years/ level of working experienced.

Finally, the result of this study revealed no significance difference in lecturers test scoring knowledge among lower experienced, quite experienced, average experienced and high experienced lecturers with high, average and low test scoring knowledge in Zamfara State. This can be ascribe to the fact that instrument of data collected (i.e. TTSS) administered to lecturers was not completed instantly. They filled the TTSS at interval of days and weeks which is considered as the major factor that affect the data collected, result and conclusion of the study. Therefore future researchers on this area are recommended to take note of this problem and try to minimize this problem in order to prevent it influence on data collected, result of the study and conclusion.

Conclusions

Despite the personal experience which seem that tertiary institution lecturers in Zamfara state have insufficient test scoring knowledge. From the findings of this study, it can be concluded that tertiary institution lecturers in Zamfara State are knowledgeable on test scoring, and their knowledge of test scoring relatively remains high across all level of working experience. It can also be concluded that lecturers test scoring knowledge do not differ significantly by level of working experience. This means lecturer's test scoring knowledge was not affected by field of knowledge.

Recommendation

Based on the findings the study recommends the following:

1. Tertiary institutions, Ministry of education and high profile educational stake holders should ensure lecturers are trained on essential concept, principles, techniques and procedure of test scoring through in-service training and workshop.
2. Tertiary institutions should have policy on examination/test scoring such as preparing marking scheme when developing a test. The marking scheme should be moderated by Head of Department.
3. Tertiary institution administration should monitor the whole assessment process from test construction, administration to test scoring and reporting.

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