



# ASSESSMENT OF THE APPLICATION OF TESTING SKILLS AMONG SECONDARY SCHOOL TEACHERS IN CROSS RIVER CENTRAL SENATORIAL DISTRICT, NIGERIA

**Patricia Obeten Egba**

Department of Educational Evaluation and Counselling Psychology, Faculty of  
Education, University of Benin, Benin City Edo State Nigeria  
[patriciaegba@gmail.com](mailto:patriciaegba@gmail.com) / 07063326754

&

**Dr. Ekejiuba Paulette**

Department of Educational Management  
Faculty of Education, University of Benin, Benin City Edo State Nigeria

## **Abstract**

*The purpose of this study was to investigate the Application of Testing skills among teachers in secondary schools in Cross River Central Senatorial District. Three research questions guided the study. The descriptive survey research design was adopted. The population of the study comprises of public Secondary Schools teachers in Cross River Central Senatorial District. A sample size of 189 teachers was used in a proportion of 10% and 20% of schools was selected using the proportionate stratified sample making a total of 24 schools. The research instrument for data collection was questionnaire. The instrument was confirmed valid by the researcher supervisor and two other experts. The reliability obtained using Cronbach's alpha was 0.77 and the data was analyzed using descriptive statistics, mean, standard deviation and frequency count. The finding of the study revealed that teachers apply good physical conditions but did not apply a considerable number of good psychological conditions in administering their classroom achievement tests. From the result of the findings, it was recommended that teachers should follow the basic technique underlying administration and scoring of teacher-made tests for effective performance in external examinations in secondary schools*

**Keywords:** Assessment, Testing, Administration of test, scoring of test, Teacher

## **Introduction**

Teachers occupy a special position in the educational system, as they guide whatever takes place within the classroom of the school system. Apart from teaching, they produce tests which are used to evaluate teaching effectiveness and learning achievement within their classrooms. They do this through testing, measurement and evaluation. Teachers have enormous tasks of reporting to students, parents and the society what is going on in the school system. To equip teachers for this immense task, they are at one time or the other in their various

levels of educational training exposed to the basic principles of testing, through educational tests and measurement as a requirement for graduation from teachers training via higher learning institutions. The basic reason behind such exposure is to equip the teachers with the skills of testing so that in the course of teaching, they can obtain valid, reliable and useful information concerning learners' achievement. Having been armed with testing skills, teachers are expected to determine what is to be learned and then define same in such a manner that the testing items administered and scored by them should elicit desired performance and serve useful purposes for assessment.

### **Statement of the Problem**

Over the years in most schools the researcher as a class room teacher has observed that the achievement tests designed by teachers have many flaws ranging from irrelevant difficulty of items, direct quotes from text books, faulty wordings, ambiguous items, inconsistent scoring and test results that are not interpreted at all. Teachers as key instructional personnel in classroom setting need to possess some essential techniques to enable them construct, administer, and score test instruments to evaluate students academic performance. For students to successfully participate in classroom achievement tests, teacher must design test items in line with lessons taught in clarity, simplicity devoid of all ambiguity, it must be consistent and clearly worded to enable the students understand the test easily. Teachers testing skills should be replicated in their task performance. Unfortunately experiences have shown that most test items are not properly structured in secondary schools. The implication of these may be students' poor academic performance in secondary schools. It becomes necessary therefore that secondary school teacher be assessed to find out how successfully they apply the skills of testing in their dealings with their students during testing, hence the need for this study.

### **Research Questions**

The following research questions were raised to guide this study:

1. To what extent are the achievements tests valid and reliable?
2. Do teachers in secondary schools observe good conditions in administering their classroom achievement tests?
3. Which method do teachers in secondary schools use in the scoring of their classroom achievement tests?

### **Purpose of the Study**

The purpose of the study is to investigate the application of testing skills among teachers in secondary schools in Cross River Central Senatorial District; specifically the study was aimed to:

- Find out the extent to which achievements tests are valid and reliable

- Find out whether teachers in secondary schools observed good conditions in administering their classroom achievement tests.
- Ascertain whether teachers in secondary schools use the methods of scoring in the scoring of their classroom achievement tests.

### **Significance of the Study**

The findings of this study will help teachers to put their acquired knowledge into practice since testing skills were related to practice throughout their study. Also the finding will give all teachers clear and acceptable procedures to improve on their testing skills in valid and reliable achievement tests development. It will help school administrators to follow and monitor activities in the classroom to ensure that teachers are applying the testing skills (test construction, administration, scoring and interpretation of test) in development of achievement tests. This is in order for them to make informed management decisions about the teacher and students and provide adequate reinforcement to the teacher.

This study will help educational evaluators to measure and evaluate instructional curriculum and school system effectively when there is appropriate application of testing skills by teachers.

### **Review of Literature /Theoretical Framework**

This study is hinged on the classical test theory by Charles Spearman (1904). This theory is based on the assumption that there is a true score for a test taker, and that every measuring device contains some level of errors.. *From this theory it is clear that an increase in error score is as a result of teachers' inability to properly apply appropriate testing skills. The error score in any individual score gives false impression about the students' performance.*

### **The Need for Tests**

Tests are fundamental tools in both the educational and non-educational settings. The need for tests can be categorized into educational and non- educational types. Tests are used to improve teacher effectiveness as they indicate to the teacher how well he covered the material, what areas need improvement and how to organize the material for a clearer presentation to the students (Okuna, 2006).

### **Educational uses of tests**

Amedahe and Gyimah (2016) and Nitko (2018) have classified the educational uses of tests into instructional management decisions, classification decisions, placement decisions, Counselling guidance decisions, and credentialing and certification decisions. The instructional management decisions refer to all the class room decisions taken by the teacher on the basis of the assessment results of students.

### **Construction of Classroom Achievement Tests**

In a test for achievement measure, the focus is on specified content area and instructional objectives to be attained due to an instructional process. The test constructor ensures that every part of the content area is adequately covered and the instructional objectives effectively tested (Omorogiuwa, 2019). While some of the test construction principles are general and apply to any type of test, others are specific and apply solely to the particular type of test under construction. According to Omorogiuwa, even though there are no universally accepted steps to be taken in test construction, there are vital components that are included in any outline steps in test construction. Such vital components are item writing, item selection and validation of test. He continues by stating six steps in test construction, these are: Definition of content and instructional objectives, Preparation of test blue print writing of item, Item selection (Pre-Item analysis, Item analysis), validation of test, writing of final items

### **Administration of Classroom Achievement Tests**

The guiding principle in test administration is to provide all examinees with a fair chance to demonstrate their mastery of what is being measured Gronlund,(1988) cited in Rukundo & Magambo, (2011); Anhwere 2009). The need to maintain uniform conditions in test administration cannot be over- emphasised. This is especially essential for the test to yield consistent, reliable and valid scores without much, influence of bias and chance errors. This was emphasised Amedahe & Gyimah, (2016) that test administration is concerned with the physical and psychological setting in which students take their tests. The physical conditions that need to be in place to ensure maximum performance on the part of students include adequate work space, quietness in the vicinity, good lighting and ventilation and comfortable temperature (Bassey & Idaka, 2007; Rukundo & Magambo 2011;).. Tests must not be given immediately before or just after a long vacation, holidays or other important events where students are involved either physically or psychologically. Interruptions during testing, such as giving instruction, must be kept to the barest minimum and should always relate to the test. The time spent and time left to complete the test must be announced at regular intervals to enable students apportion their time to the test items. (Amedahe & Gyimah, 2016; Bassey, & Ekpodom, 2015). The psychological conditions in test administration, on the other hand, include the position of the invigilator, timing of the test, threatening behaviours of invigilators, and interruption to give instructions and announcements (Bassey & Idaka, 2007).

### **Scoring of Classroom Achievement Tests**

Test scoring is the assignment of weights values to responses made by testees, following a specified procedure (Omorogiuwa, 2019). If the values scores of a test are to supply the needed information to students, parents, the school and other stakeholders, then they must be reported in a manner that accurately

communicates how well students performed (Nunnally, 2015). The statement above clearly spells out the third principal stage of the classroom testing process which is the task of scoring. Since the objective-and essay-type tests form the back bone of most teacher-made tests, it is pertinent that their scoring is examined. The analytic and global methods are the two main methods of scoring essays (Nitko, 2018; Mehrens and Lehmann, 2015).

### **Methodology**

The descriptive survey research design has been adopted in this study. The population of the study comprised all public Secondary Schools teachers in Cross River Central Senatorial District, consisting of six Local Government Areas. There are 1,887 teachers and 119 public secondary schools in Cross River Central Senatorial District (Cross River State Zonal Ministry of Education Ikom, 2019).

In this study, a sample size of 189 teachers was selected. The proportionate stratified sample techniques were adopted to select the sample size. To stratify this sample; the following steps were taken

**Stage 1:** The Local Government Area formed the stratum, from the Local Government 20% of the number of secondary schools were randomly selected by balloting making a total of 24 schools for the Sample.

**Stage 2:** 10% of the Teachers in the Sampled Local Government were selected. These Teachers were obtained from the schools Sampled by using the number of Schools in the Local Government to divide the number of sampled teachers in the local Government Area.

The instrument that was used for this study was a questionnaire, titled Application of testing skills questionnaire (ATSQ), for data collection. The questionnaire had only two sections, consisting of 24 items generated from each of the four skills in testing. The items on the questionnaire were mainly close – ended. The instrument was subjected to face-to- face validation by three experts in the field of Measurement and Evaluation. For the reliability, the instrument was subjected to trial testing. The instrument was administered to 20 teachers who were not part of the sample for the study. The data for the responses were coded using SPSS (Statistical Package for the Social Sciences). The internal consistence was then estimated alpha coefficient reliability test. The Cronbach's alpha value of 0.77 was obtained. The research questions were analyzed using descriptive statistics (frequency count, percentage, mean, and standard deviation).

## Presentation of Result

**Research Question One:** To what extent are the achievement tests valid and reliable?

**Table 1: Mean and Standard deviation of achievement test construction**

Test Construction Variable	N	Mean	Std. Deviation	Normative Mean
<b>In construction test teachers:</b>				
define the content and instructional objective of the test.	180	1.87	.812	2.5
use a table of specifications	180	1.71	.794	2.5
write the test items in advance	180	1.72	.819	2.5
estimate the difficulty level of the test items.	180	1.48	.766	2.5
Compute discrimination index of their test items.	180	1.36	.715	2.5
write clear instructions on how the test is to be responded to	180	1.93	.901	2.5

Table 1 shows a mean and standard deviation of step in test construction. Teachers define the content and instructional objective of the test as 1.87 and .812; Teachers use a table of specifications as 1.71 and .794; write the test items in advance as 1.72 and .819; estimate the difficulty level of their test items as 1.48 and .766; compute their discrimination index of their test items as 1.36 and .715; write clear instructions on how the test is to be responded to as 1.93 and .901. However, the table shows the normative mean of 2.5, since the mean value of all the application of test construction techniques are less than the normative mean of 2.5. Consequently, teachers in Cross River Central Senatorial District Secondary Schools do not follow the steps in test construction. Hence, the achievement tests are not valid and reliable.

**Research Question two:** Do teachers in Cross River Central Senatorial District Secondary Schools observe good conditions in administering their classroom achievement tests?

**Table 2: Mean and Standard deviation of administration of classroom achievement tests**

Test Administration conditions	N	Mean	std.	Normative Mean.
<b>In preparing student for test, teacher ensures that:</b>				
date, time and venue of test are given .	180	2.56	.970	2.5
the sitting arrangement allows enough space	180	2.51	1.146	2.5
adequate ventilation and comfortable temperature	180	2.62	1.094	2.5
test is given immediately before vacation	180	1.99	.891	2.5
there is no Interruption during the test	180	3.60	.961	2.5
time left to complete the test is announce	180	1.92	1.011	2.5

Table 2 shows a mean and standard deviation of test administration. The physical conditions Outlined, (1) is to make the students aware of when (date & time) the test would be given  $M=2.56, SD=.970$ ; (2) Teachers ensure that the sitting arrangement allows enough space  $M=2.51, SD=1.146$ ; (3) Teachers ensure adequate ventilation and comfortable temperature  $M=2.56, SD=1.094$ . Table 3 show a normative mean of 2.5. The result in table 2 indicates a favourable mean which is the same with the normative mean, this shows that teachers in Cross River Central Senatorial District Secondary Schools observed good physical conditions in administering their classroom achievement tests. The psychological conditions outlined were (1) teachers give test immediately before or after a long vacation  $M=1.99, SD=.891$ ; (2) I ensure that interruption during the test is related to the test  $M=3.60, .961$ ; (3) Teachers announce the remaining time left  $M=1.92, SD=1.011$ . From the above result, only one condition has a favourable mean of 3.60 which is greater than the normative mean of 2.5. The other two psychological conditions indicate less mean than the normative of 2.2. Hence, teachers in Cross River Central Senatorial District Secondary Schools did not observe good physical conditions in administering their classroom achievement tests.

**Research Question three:** Which method do teachers in Cross River Central Senatorial District Secondary Schools use in the scoring of their classroom achievement tests?

**Table 3: Frequency Distribution of the Method Teachers Used in Scoring Essay Test**

Method	Frequency	Percent (%)
Global Method	58	32.2
Analytic Method	122	67.8
Total	180	100.0

From Table 3, it could be observed that 58 (32.2%) of the respondents used the global method and 122 (67.8%) used the analytical method in scoring their essays. The observed percentage for analytic method was found to be higher than the percentage of global method. The result indicates that, mostly, the teachers in the study used the analytic method in scoring their essay-type tests.

Item 14 on the questionnaire asked respondents to indicate the technique (i.e., whether student by student or item by item) they used in scoring their essay-type tests.



**Table 4: Frequency Distribution of Procedure Teachers Used in Scoring Essay Tests**

<b>Technique</b>	<b>Frequency</b>	<b>Percent(%)</b>
Student by Student	95	52.8
Item by Item	85	47.2
Total	180	100.0

From Table 4, it could be observed that 95 (52.8%) of the respondents scored their essay-type tests student by student. The rest, 85 (47.2%) scored their essay-type tests item by item. The result indicates that on the whole, half of the respondents in the study used the technique of student by student while the other half of the respondents used the technique of item by item in scoring their essay-type tests. Items 15 to 21 on the questionnaire sought to find out whether or not respondents practiced seven other essay-type test scoring technique.

### **Discussion of findings**

Research question one shows that teachers in Cross River Central Senatorial district Secondary Schools did not follow test construction technique to any appreciable extent. The finding of this study is in agreement with the findings of Hamman-Tukurl and Hamafyelta (2015) who carry out a study to assess teacher's competence in test construction and content validity of teachers made examination questions in commerce in Borno state. The finding reveals that the teachers in Borno state Senior Secondary School were not competent in constructing their examination questions based on the limited National Educational Scientific and Cultural organization (UNESCO) standards. However, this is in disagreement with the study of Tariah and Okon (2019). They find out that the lecturers are very knowledgeable on the test construction procedure.

The result of research question two shows that teachers in Cross River Central Senatorial District Secondary Schools observed good physical conditions but did not observe a considerable number of good psychological conditions in administering their classroom achievement tests. The finding of this study corroborated the findings of Idaka, (2008) who clearly indicates that teachers observed good physical conditions but did not observe a considerable number of good psychological conditions. The findings in terms of the physical conditions are by and large in line with the test administration guidelines proposed by Etsey (2004). These are, basically, with the intent of providing examinees with a fair chance to demonstrate their ability on what is being measured. Teachers' habit in the study of not observing good psychological conditions when testing their students is actually a disturbing phenomenon since psychometricians such as Mehrens & Lehmann, (2015) have asserted that poor psychological conditions such as interruptions within and outside the testing room

have the tendency of affecting student's performance. The finding is contrary with the study of Anhwere (2009) who stated that teachers did not ensure good physical conditions in administering their classroom or teacher-made tests. This implies that psychological conditions were quite favorable for good test taking in the colleges.

The result of research question three shows that mostly, the teachers in the study used the analytic method in scoring their essay-type tests and they scored their tests student by student. The study agrees with the study of Amedahe, (2003) who reported that teachers in the schools used mainly the analytic method in scoring their tests. Again, teachers in the schools scored their tests either item by item or script by script. This is in disagreement with table 4 which showed that a majority of the teachers scored their tests student by student. The study also agrees with Quaigrain, (2012) who study found that a majority of teachers in the schools used the analytic method in scoring their classroom achievement tests. This is a very positive indication for achievement test scoring since the analytic method ensures objectivity and consistency in scoring and higher reliability of test scores ( Mehrens & Lehmann, 2015).Also, minority of the teachers scored their achievement tests item by item while the majority scored them script by script. The finding of the study also indicates that teachers practised four of the other seven test scoring techniques outlined in the questionnaire. The findings are consistent with general techniques of test scoring proposed by Amedahe and Gyimah (2016), It is an encouraging news that teachers in the study applied a total of four out of seven test scoring techniques. Nevertheless, due to the complexities involved in the scoring of the essay-type tests, even an omission of one of the scoring guidelines has the potential of causing inconsistencies in the test scores and thereby renders them unreliable.

## **Conclusion**

On the basis of the results obtained in this study, the following conclusions can be drawn. On test administration and scoring, teachers generally reported that they applied a considerable number of the techniques outlined under each of them in the questionnaire. It could therefore, be concluded that, to a great extent, teachers in Cross River Central Senatorial District followed the basic techniques prescribed by testing experts in the administration and scoring of their classroom achievement tests, and teachers are not well grounded in the administration and scoring of teacher-made tests. However, they are expected to be knowledgeable in application of testing skills.

## Recommendations

In view of the above research findings and the conclusions arrived at, the following recommendations are made.

- That teacher should follow the basic techniques underlying construction administration and scoring of teacher-made tests prescribed by testing experts for effective performance in external examinations in secondary schools.
- That every teacher should be given adequate formal training in educational measurement and evaluation during pre-service training to equip him/her for the tasks and demands on the job.
- As regards to putting skills and competencies in achievement test development to use, what teachers learn from training sessions, heads of the secondary schools should ensure that teachers apply what they learn from workshops in the teacher training colleges by often observing the teachers in the classrooms when teaching

## References

- Amedahe, F. k. & Gymah, K.A. (2016). Measurement and evaluation, Cape Coast, Ghana: Centre for Continuing Education.
- Admedahe, F. K. (2003). Assessment of Test score interpretation method in achievement test. New Jersey: Prentice. Hall, Inc
- Anhwere, Y. M. (2009). Assessment practices of Training College Tutors in Ghana. Published Master's Thesis, University of Cape Coast, Cape
- Bassey, B. A., & Ekpoudom, E.E. (2015) Teachers Academic Qualification and Application of Testing Skills' in IkotEkpene Education Zone in AkwaIbom State. *International Journal of Educational Administration and Planning*, 1 (2)
- Bassey, S.W. & Idake, I. E. (2007) .Reforming Assessment Practice in Nigeria Schools: The Option of Intergrated Domain Benchmarking. Paper presented at the 2007 Association. University of Jos, 31<sup>st</sup> July-3<sup>rd</sup> August.
- Cunningham, G. K. (2016). Educational and Psychological measurement, New York: Macmillan Publishing Company.
- Etsey, Y. K. A. (2004). Kairos And Informative Assessment: Rethinking the formative/summative distinction in Nebraska. *Theory Into Practice*, 48, 81- 88.
- Idaka, E. E. (2008) Teachers Perception of Test Administration Skill in the Implementation of School Based Assessment Programmed in AkwaIbom State. Unpublished master thesis, University of Calabar.
- Mehrens, W. A. & Lehmann, I. J. (2015). Measurement and evaluation in education and psychology. (4<sup>th</sup>ed) . New York: Holt, Rinehart and Winston Inc.

- Nitko, A. J. (2018). Educational assessment of students (8<sup>th</sup>ed). New Jersey: prentice- Hall, Inc.
- Nunnally, J. C. (2015). Educational measurement and Evaluation, New York: mc Grew –Hill Inc.
- Okuna, U. M. (2006). Validation of a test measuring Young Learners: General English Vocabulary, Knowledge, and Skills. SYLVEN 1 & Pia SUNDQVI- Eric.
- Omorogiuwa, O.K. (2019). An Introduction to Educational Measurement and Evaluation (2<sup>nd</sup> Ed.) Benin: Mase-perfect Printing Press
- Quaiqrain, A.K. (2012). Teachers competence in the use of essay tests: A study of secondary schools in the western region of Ghana, unpublished master's thesis, university of cape coast, Ghana.
- Rukundo, A. Magambo, J. (2011). Effective Test Administration in Schools: Principles and Good practices for Test Administrators in Uganda, Mbarara University of Science and Technology.
- Tariah, D. C. & Okon, E. J. (2019). Knowledge of test construction Procedures among Lecturers in Ignatius Ajuru University of Education Port Harcourt, Nigeria. *International Journal of Academic Research*. 10 (1)2223-9553.
- Hamman-Tukur, A. & Hamafyelto, S. S. (2015) Assessing Teachers Competence in Test Construction and Content Validity of Teachers made Examination Questions in Commerce in Borno State, Nigeria. *Journal of Education*, 5(5), 123 -128