

Standards for teacher competence in educational assessment of students: Nigerian teachers' ratings of their need.

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Abstract

As part of all teacher education programmes in Nigeria, educational assessment of students is emphasized. Within the educational system, a school-based assessment is equally given priority. Therefore teachers should have competence in educational assessment of students if the goals of the educational system are to be achieved. A shortfall in the knowledge base of teachers in this area means that assessment benefits may not be realized, and the need to mount a pre-service upgrading programmes become necessary. It is against this background that this study attempted to find out teachers' expressed competence in assessment of students. The competences examined are those relating to 'selecting, developing, applying, using, communicating and evaluating student assessment information and student assessment practices'. The population will comprise all teachers in basic schools drawn from a large urban area in Nigeria. A sample of 1,000 teachers with 500 from each of primary and junior secondary schools would be utilized. The questionnaire used focused on the 'Standards for teacher competence in educational assessment of students' was used. It requested respondents to indicate their level of competence. The data were analyzed using means, standard deviations, t-test and an interpretative norm. It is anticipated this would highlight areas of need on the basis of which a retraining programme can be designed. In this way the goals and objectives of school-based assessment in Nigeria would be attained.

Keywords: Educational assessment, Standards, Nigeria, Teacher competence, Students

Introduction

In Nigeria's National Policy on Education (2004) it is clearly stated that educational assessment and evaluation will be liberalized by basing them in whole or part on continuous assessment (CA) of the progress of the individual. It also specified that the primary school leaving certificate shall be based only on continuous assessment while the junior secondary certificate (JSC) shall be based on continuous assessment and an examination conducted by the State and Federal examination bodies. At all levels of teacher education, emphasis is placed on the educational assessment of students. To this end all teachers in training are expected to take at least a course in test and measurement or measurement and evaluation, depending on the institution.

Educational assessment is the process of collecting information for making decisions about students, curricula, programs and educational policy (Nitko & Brookhart, 2007). Educational decisions made about students include instructional management decisions, selection, placement, classification, counseling and guidance, credentialing and certification (Hopkins & Stanley, 1973; Sax, 1980; Nitko & Brookhart, 2007). Viewed in this way, it can be said that assessment plays a vital role if decisions are to be taken about students. Ojerinde (2009) purports that assessment is at the heart of education as test scores of assessment are used to gauge students' academic strengths and weaknesses. Obioma (2008) has opined that with the commencement of the implementation of the 9-year Basic Education Curriculum in Nigeria, approval was given by the National Council on Education on a new framework for conducting continuous assessment in schools. However, Okpala, Onocha & Oyedeji (1993) have earlier stated that there have been problems in the effective implementation of CA. This may have a bearing on the assessment practices of teachers and the population of students to be assessed. In recognition of this, that there were training and retraining programs for teachers as part of CA implementation (Okpala & Onocha, 1984).

Assessment is an integral and essential part of the teaching and learning cycle. In the assessment process there is a clear link between stated learning outcomes, the learning experiences the students are exposed to and the assessment tasks. Through assessment the teacher is able to diagnose students' learning difficulties and plan further instruction for them. It provides feedback to students about their learning, to teachers about how well they have taught, to parents about their child's performance and to communities to judge the quality of the educational system. In the assessment of students the teacher takes the stage. Airasian (1996) claimed that assessment is not just for students, it is for teachers as well. Therefore, teachers are expected to demonstrate some level of competence in assessing their students. The days are over when a teacher, in assessing his students merely copies the questions at the back of textbooks without taking into cognizance the purpose and use of the assessment results. There are different assessment techniques and these must be matched to purpose and must be conducted using established quality standards.

The American Federation of Teachers, National Council on Measurement in Education and National Education Association (1990) enumerated seven standards for teacher competence in the educational assessment of their students. These include:

- Choosing assessment methods appropriate for instructional decisions
- Developing assessment methods appropriate for instructional decisions
- Administering, scoring, and interpreting the results of both externally- produced and teacher-produced assessment methods
- Using assessment results when making decisions about individual students, planning teaching, developing curriculum and making recommendations for school improvement
- Developing valid grading procedures which use pupils assessment
- Communicating assessment results to students, parents, other lay audiences and other educators
- Recognizing unethical, illegal and otherwise inappropriate assessment methods and uses of assessment information.

Teachers are expected to have mastered these competencies to deliver appropriate assessment. Studies by Okpala & Onocha (1984), Universal Basic Education Commission (2001, 2009) and Obioma (2008) have examined teacher needs and competence on assessment methods. Though these have shed light on teachers needs, they have not looked at the competencies as outlined above. This study therefore was designed to explore teachers' expressed competence on each of the seven standards. The objectives of this study then are to find out:

1. the extent to which primary and junior secondary school teachers are competent in the seven standards for teacher competence in assessment of students; and
2. the difference in the level of competence between the two groups.

Methods

The study adopted a survey design. The population comprised all teachers in Primary and Junior secondary schools (Basic Education) in Benin metropolis, the capital of Edo state in Nigeria. A sample of 1000 teachers with 500 each from each of primary and junior secondary schools was used. A survey instrument (TCEANSQ) was employed in eliciting information from the respondents. The instrument comprised two sections: Section A, made up of 6 items required information on Sex of respondent, type of school in which they teach, highest educational qualification, background in education, Subject area taught, and teaching experience. Section B contained 42 statements on assessment issues about the conceptual and application skills that teachers should possess if they meet the requisite standards. Seven major groups of assessment issues representing the 7 standards were focused on. These issues had 8, 5, 10,4,5,6 and 3 items respectively. Respondents were asked to tick as appropriate the extent to which they had competence in the assessment issues raised. Such issues included among others:

- Provide appropriate feedback to students/pupils
- Plan collection of information that facilitates decision making
- Interpret informal assessment results
- Use accumulated assessment information to organize instructional plan
- Explain why grades assigned are rational and justified
- Communicate to students/pupils, parents/guardian how to assess students'/pupils' educational progress
- Explain laws that affect assessment practices.

Respondents were asked to respond on a scale of: Very Competent, Competent and Not Competent. The instrument was subjected to validation using a group of 3 assessment experts, who were to indicate the appropriateness of the items, ease of understanding and relevance. The internal consistency measured through Cronbach Alpha was 0.91. The responses were scored as follows: Very Competent = 3, Competent = 2 and Not Competent = 1. The final version of the instrument was randomly administered on the sample of school teachers. The data were analyzed using means, frequencies and t-test of difference between means. It was felt that very competent behavior was what is desired and therefore responses of competent and not competent were indicative of a need for further teacher development. On the basis of this, the following interpretative norms were set up for giving meaning to each of the standards:

Table 1: Interpretative norm

Assessment Standard	Requires teacher development	Do not need teacher development
Choose/Select assessment methods (8 items)	Mean < 16	Mean ≥ 16
Develop assessment methods (5 items)	Mean < 10	Mean ≥ 10
Administer, score and interpret results of assessment (10 items)	Mean < 20	Mean ≥ 20
Use assessment results when making decisions about students (4 items)	Mean < 8	Mean ≥ 8
Use assessment for grading (5 items)	Mean < 10	Mean ≥ 10
Communicate assessment results (6 items)	Mean < 12	Mean ≥ 12
Recognize unethical practices (3 items)	Mean < 6	Mean ≥ 6

The responses on each of the items for each standard were scored and cumulated to get a score for each standard. It is these cumulated scores that were used in the analyses with respect to the standards.

Results

Table 2 contains the means and standard deviations for the respective standard for all the teachers who took part in this study. Using the interpretative norm setup, it is realized that the teachers are competent on all standards except that dealing with recognition of unethical practices. The issues involved in this scale are: describing laws that affect assessment practices (1.82), explaining how assessment procedures can be misused (1.87) and knowing harmful consequences of overused/misused assessment procedures (1.93). The results for other standards look good but it should be noted that we have looked at them from a macro level. At the micro level looking at the individual items, some items fall short of expectations as their mean is less than 2. These items are: use scales for rating performance of students/pupils (1.99), use stencil for scoring response-choice questions (1.84), interpret reported scores like percentile ranks, standard scores, etc (1.94), apply concept of score and summary indices (1.98) and can avoid faulty grading procedures such as using grades as punishment (1.91).

Table 2: Means and standard deviations of standards of teacher competence in assessment of students

Standard	Mean	Std. deviation
Choose/Select assessment methods	17.54	2.94
Develop assessment methods	10.80	2.26
Administer, score and interpret results of assessment	20.41	3.62
Use assessment results when making decisions about students	10.76	2.18
Use assessment for grading	10.31	2.21
Communicate assessment results	12.42	2.31
Recognize unethical practices	5.63	1.55

Table 3 shows the mean, standard deviation and t-values of test of difference of standard of teacher competence in assessment of students between primary school and junior secondary school teachers. Significant differences were observed for the following standards: choose/select assessment methods, administer, score and interpret results of assessment, use assessment results when making decisions about students, use assessment for grading, and communicate assessment results. Differences were not observed in the cases dealing with development of assessment methods, recognition of unethical practices. The

Table 3: t-test of difference between means of standards of teacher competence in assessment

Assessment standard	Type of school in which you teach	N	Mean	Std Deviation	t	df	Sig.
Choose/Select assessment methods	Primary	492	17.96	3.01	4.49	985	.000
	Junior Secondary	495	17.12	2.81			
Develop assessment methods	Primary	494	10.85	2.25	0.62	991	.537
	Junior Secondary	499	10.76	2.28			
Administer, score and interpret results of assessment	Primary	484	20.70	3.68	2.56	988	.011
	Junior Secondary	496	20.12	3.53			
Use assessment results when making decisions about students	Primary	497	11.06	2.08	4.37	991	.000
	Junior Secondary	496	10.46	2.24			
Use assessment for grading	Primary	494	10.45	2.34	1.97	990	.049
	Junior Secondary	498	10.17	2.18			
Communicate assessment results	Primary	498	12.57	2.27	2.12	989	.034
	Junior Secondary	493	12.26	2.34			
Recognize unethical practices	Primary	500	5.63	1.57	0.01	997	.994
	Junior Secondary	499	5.63	1.53			

competence on all the standards except in the case of recognition of unethical practices was in favour of primary school teachers.

Discussion, conclusion and recommendations

The fact that competence fell below expectation on recognition of unethical practices should be of concern. This is more so as the attempt to combine classroom assessment scores with public examination scores has very often been manipulated by teachers. The implication is that what is important is what is obtained and not how genuinely this was obtained. The consequence of this attitude is that confidence in the quality of school output would wane. The items on which competence fell below expectations have to do with some quantitative aspects of assessment courses usually taught as part of teacher education programmes. They focus on interpretation and grading of assessments which are very important components of the teachers' routines.

The fact that primary school teachers claimed to be more competent than junior secondary school teachers with respect to the standards calls for an examination of their training programmes. Experience shows that even though the Nigerian certificate of education (NCE) is the minimum qualification for teaching in Nigeria as specified in the National Policy on Education (2004), many primary school teachers were initially employed with the teachers' grade two certificate. This programme used a lot of clinical approaches in training would-be teachers. A majority of these corps of teachers have however been upgraded to NCE holders through different teacher development programmes but then the initial training effect can still be seen at work. The fact that teachers in both type of schools expressed the same feelings with respect to recognizing unethical practices points to the need to emphasize this as part of teacher programmes both in-service and pre-service.

Conclusively, training and re-training programmes should continue to be mounted to enhance the level of assessment practices of teachers. This is imperative as good quality assessment is desirable if the teaching and learning processes which take place in school should yield good results.

References

- Afemikhe A.O, Omo-Egbekuse J. & Imobekhai S. (2009). Accreditation and certification issues in Nigerian schools. A paper presented at the 35th. annual conference of the International Association for Educational Assessment. Brisbane, Australia.
- Afemikhe, A.O (2007). Assessment and educational standard improvement: Reflections from Nigeria. A paper presented at the 33rd. Annual conference of the International Association for Educational Assessment. Baku, Azerbaijan.
- Airasian, P. W (1996). Assessment in the classroom. New York: McGraw-Hill, Inc.
- Benjamin Rosner (1969). Teacher's perception of their tests and measurement needs. Development in educational testing. Vol.2. in Karlheinz Ingenkamp (Ed). London: University of London Press Ltd.
- Federal Government of Nigeria (2004). National policy on education. Lagos: NERDC press
- Gilbert Sax (1980). Principles of educational measurement and evaluation (2nd. ed). Wadsworth publishing Company.
- Hopkins K.D & Stanley J.C (1981). Educational and psychological measurement and evaluation. 6th. Ed. Eaglewood Cliffs, N. J. : Prentice-Hall Inc.
- Nitko A. & Brookhart S. (2007). Educational assessment of students. (5th. ed) Upper Saddle river, New Jersey: Pearson Inc
- Obioma, G.(2008). Continuous assessment practices of primary and junior secondary school teachers in Nigeria. A paper presented at the International Association for Educational Assessment conference, Cambridge-UK, Sept. 7-12, 2008.
- Okpala, N.P. & Onocha, C. O.(1984). Perceived needs and correlates of needs for improved evaluation practices of integrated science teachers. Benin Journal of Education Studies, vol 3 No 2.
- Okpala, P.N, Onocha, C.O and Oyedeji O.A (1993). Measurement and evaluation in education, Jattu-Uzairue: Stirling-Horder Publishers
- Ojerinde 'Dibu (2009). Using assessment for the improvement of tertiary education in Nigeria: The Joint Admissions and Matriculation Board (JAMB) role. A paper presented at the 35th. International Association for Educational Assessment conference., Brisbane, Australia. 13-18 Sept. 2009
- Universal Basic Education Commission(2001). Report of national assessment 2001 of the Universal Basic Education (UBE) Programme. Abuja: The Author.

Appendix: Mean and standard deviation of assessment issues in standard of teachers' competence in assessment of students

Assessment Issue	Mean	Std. deviation
Provide appropriate feedback to students/pupils.	2.51	0.57
Motivate students/pupils.	2.42	0.58
Use concept of assessment error and validity.	2.01	0.73
Diagnose group and individual learning needs.	2.23	0.63
Plan individualized educational programmes.	2.02	0.66
Evaluate instructional procedures.	2.11	0.75
Evaluate available assessment options.	2.11	0.66
Determine appropriateness of assessment procedure for making decisions about pupils/students.	2.14	0.69
Plan collection of information that facilitates decision making.	2.12	0.68
Know pitfalls in student/pupil assessment.	2.12	0.68
Create assessment approaches.	2.17	0.72
Implement assessment approaches.	2.12	0.69
Use student/pupil data to analyse the quality of each assessment technique.	2.18	0.68
Interpret informal assessment results.	2.04	0.66
Use marking scheme to mark essay questions.	2.26	0.68
Use scales for rating performance of students/pupils.	1.99	0.68
Administer standardized achievement tests.	2.21	0.68
Interpret formal teacher-produced assessment results	2.12	0.65
Use stencil for scoring response-choice questions.	1.84	0.72
Understand summary index such as means, standard deviation, etc.	2.04	0.70
Use assessment results so that students'/pupils' anxiety levels are not appropriately increased.	2.01	0.67
Interpret reported scores like percentiles ranks, standard scores, etc.	1.94	0.73
Apply concept of score and summary indices.	1.98	0.74
Use accumulated assessment information to organize instructional plan.	2.09	0.69
Interpret assessment results correctly to plan instruction and curriculum.	2.05	0.71
Basing decisions on scores as they relate to curriculum validity.	2.07	0.70
Use assessment result for school improvement.	2.26	0.65
Use assessment result for classroom improvement.	2.29	0.64
Explain why grades assigned are rational and justified.	2.11	0.66
Know that grades awarded reflect teachers' preferences and judgement.	2.21	0.66
Can avoid faulty grading procedures such as using grades as punishment.	1.91	0.74

Devise a procedure for developing grades composed of marks from various assignments, projects, etc.	2.03	0.71
Modify grading procedures to improve confidence in interpretations made from them about students/pupils.	2.05	0.73
Explain how interpretation of students/pupils assessment must be moderated by students'/pupils' socio-economic background, language, etc.	2.00	0.72
Explain that assessment results do not imply that background limit their ultimate educational development.	2.00	0.72
Communicate to students/pupils, parents/guardians how to assess students'/pupils' educational progress.	2.00	0.72
Know the importance of taking measurement errors into account when using assessment to make decisions about individual students/pupils.	2.25	0.68
Explain the limitations of different informal and formal assessment methods.	2.03	0.70
Explain printed reports of student/ pupil assessment at classroom, state and national levels.	2.05	0.68
Describe laws that affect assessment practices.	1.82	0.73
Explain how assessment procedures can be misused.	1.87	0.68
Know harmful consequences of overused/misused assessment procedures	1.93	0.71