



IMPROVEMENT NEEDS OF TEACHERS IN DEVELOPING INSTRUMENTS FOR MEASURING ACTIVITY-BASED LEARNING IN COLLEGES OF EDUCATION IN SOUTH-SOUTH, NIGERIA

Okeme Isaac (Ph.D)¹, Anam, Blessing²

¹Department of Vocational Education, Faculty of Education,
University of Calabar, Nigeria

²Department of Human Kinetics & Health Education, Faculty of Education,
University of Calabar, Nigeria

Abstract:

The study determines the Improvement Needs of Lecturers in Developing Instruments for Measuring Activity-based Learning in Colleges of Education in South-south, Nigeria. The study was guided by one research question using descriptive survey design with a population of 174 Lecturers drawn from 16 Colleges of Education in South-south, Nigeria. A 35 multiple choice items was developed with Simpson's Psycho-motor domain taxonomy to collect data using Kidder-Richardson (K-R20) to determine the internal consistency of the instrument and yielded a coefficient of 0.87. The data were analysed using Mean and Improvement Needs Index (INI) to determine the Improvement needs of the Lecturers. The result revealed that the lecturers need improvement in the entire in developing evidence-based instrument in all the levels of Simpson's taxonomy of the psychomotor domain. Based on the findings, recommendations were made.

Keywords: improvement, needs, activity-based, instruments, South-South, Nigeria

1. Introduction

The achievement of any educational objective is the function of the instrument used in measuring it. In the context of this study, measurement is viewed as the extent to which the objectives of activity-based components of Colleges of Education curricula in South-south could be achieved using valid measuring instruments. The three domains of instruction are contained in any curriculum objectives namely cognitive, affective and

psychomotor domains which should be measured to ascertain the achievement of the set objectives. Emphasis of measurement of educational objectives is near totally shifted to the cognitive domain with the levels of: knowledge, comprehension, Application, Analysis, Synthesis and Evaluation (Bloom's taxonomy). In Bloom's, emphasis is concentrated on the measurement of product while in activity-based instruction emphasis should be on process thereby making Bloom's taxonomy deficient.

It is the realization of the shortcomings of using Bloom taxonomy to measure the activity-based component of any instructional objectives that Simpson (1972) developed psychomotor domain taxonomy with the following levels- perception, set, guided response, mechanism, complex overt response, adaptation and origination. Observations have shown that lecturers in colleges of Education in south-south, Nigeria lack some competencies in the development of instrument to measure activity-based learning, hence their concentration on the use of Bloom's taxonomy. This was evidenced in the researcher's observation in questions developed by lecturers in t Colleges of Education where this study was carried out.

This in effect made the achievement of the activity-based components of the Colleges of Education curricula very elusive. To be able to develop an instrument to measure the psychomotor objectives require some competencies on the part of the lecturers. Competence in the submission of Encarta (2009) is the ability to do something well, measured against a standard, especially ability acquired through training or experience. Also International Labour Organization report (2003) posited competency as the knowledge, capabilities and behavior which someone exhibits in doing his job and which are factors in achieving the objectives pertinent to the teaching strategies. Competence in the context of this study consists of the knowledge, skills and attitudes which the lecturers in Colleges of Education require to develop Activity-based (activity-based) test items to achieve activity-based objectives of the curricula. These will make the lecturers work to be quality-assuring.

Quality in the view of Olaitan, Nwachukwu, Igbo, Onyemachi and Ekong (1999) is that distinguishing parameter or characteristic that brings out or exposes the worth or goodness associated with a thing. The authors stated that quality has to do with the level of competence or excellence in performance, which can be measured by establishing acceptable criteria and standards. Quality in this study refers to the level of competence appropriate for the performance of a set of activities towards achieving the objectives of activity-based components of the Colleges of Education curricula in South-south, Nigeria. Hence, quality assurance in this study, is an indication or evidence that if lecturers in Colleges of Education are competent in developing Activity-based (activity-based) test items in measuring psychomotor skills, it will indicate whether or

not the psychomotor objectives are achieved or not. College of Education is a three year teacher training programme of education after graduating from secondary school. It was observed by the researchers that lecturers set mostly questions based on Blooms taxonomy of cognitive levels without the thought of measuring psychomotor skills in the students. The implication of these practices in the view of Olaitan and Mama (2001) is that student's graduate from the programme without acquiring the basic competencies that will enable them to fix themselves into the world of work of teaching and to make a living.

1.1 Problem Statement

For any Educational institution to be successful in its goal of changing the behavior of learners, is a function of achievement of its curriculum objectives set for that level of learning. Colleges of Education in South-south, Nigeria are no exceptions. The researchers s' observation revealed that the measurement instruments used in these colleges to assess the psychomotor domain objectives of their curriculum are defective. This is because the lecturers are more conversant with the use of Bloom's taxonomy whose measurement is product oriented while measurement of psychomotor objectives ought to be process oriented which is the emphasis of Simpson. It is the realization of this emphasis that the researchers s carried out this study to ascertain the ability of lecturers in developing valid measuring instrument to assess the achievement of activity-based objectives of Colleges of Education curricula in South-south, Nigeria.

1.2 Purpose of the Study

The purpose of this study therefore is to identify areas in the Activity-based component of the Curricula where Lecturers in Colleges of Education require competences in developing Activity-based test items that will be quality assuring in measuring students' performance in activity-based components of the curricula in South-south, Nigeria. Specifically, the study sought to identify whether lecturers of Colleges of Education require competencies in developing Activity-based skill multiple test items in Animal science that can be quality assuring in measuring psychomotor objectives of the Colleges of Education curricula using the seven levels of Simpson's taxonomy.

1.3 Research Question

What are the competencies required by lecturers in developing Activity-based multiple choice items in Activity-based curricula components at the Perception, Set, Guided

response, Mechanism, Complex overt response, Adaptation and Origination levels of Simpson's Psychomotor domain?

2. Methodology

One research question guided this study. Survey research design was adopted for this study. Olaitan, Ali, Eyo and Sowande (2000) stated that survey research design is the plan, structure and strategy that the investigator wants to adopt in order to obtain solution to reach problems using questionnaire in collecting, analyzing and interpreting the data. A 36 item multiple choice questions was utilized to collect data from the Lecturers in six Colleges of Education in South-south, Nigeria.

The study was carried out in South-south, Nigeria with a population of 47 lecturers drawn from six colleges in South-south, Nigeria. The population was small and therefore the entire population constituted the sample for the study. A 36 item multiple choice questions were developed by the researchers using the Simpson Psychomotor Domain Taxonomy with the seven levels of Perception (5 questions) Set (5 questions) Guided response (6 questions) Mechanism (6 questions) Complex over response (6 questions) Adaption (4 questions) and Origination (4 questions). The instrument was validated by three experts in the Department of Vocational Teacher Education, University of Nigeria, Nsukka. Kuder-Richardson (K-R20) was used to determine the internal consistence of the instrument with a coefficient of 0.91. The items were thoroughly mixed together and the 47 lecturers were asked to separate the items into the correct levels in the Simpson taxonomy. At the end of the exercise, the lecturers were graded. Where the Observed Mean score of the respondents is equal or higher than the Expected Mean on an item implies that no quality assurance is required but where the Observed Mean is lower than the Expected Mean implies that quality assurance is required. In this study, the Expected Mean score is 0.5 ($0 + 1 / 2$)

3. Results

The result of the study was obtained from the answered research questions.

Research question: *What are the competencies required by lecturers in developing Activity-based multiple choice items in Activity-based curricula components at the Perception, Set, Guided response, Mechanism, Complex overt response, Adaptation and Origination levels of Simpson's Psychomotor domain?* The data for answering the research question are presented in Table 1.

Table 1: Skills Improvement Needs Index (SINI) analysis of responses of lecturers in developing Activity-based multiple choice items in Perception, Set, Guided response, Mechanism, Complex overt response, Adaptation and origination levels of Simpson's Psychomotor Domain taxonomy

N=47

Item Number	Number That Identified Item Correctly	Expected Mean	Observed Mean	Remarks
Perception				
1	11	0.5	0.23	IN
2	15	0.5	0.32	"
3	18	0.5	0.38	"
4	12	0.5	0.26	"
5	14	0.5	0.30	"
Set				
1	21	0.5	0.45	"
2	17	0.5	0.36	"
3	22	0.5	0.47	"
4	11	0.5	0.23	"
5	14	0.5	0.30	"
Guided Response				
1	12	0.5	0.26	"
2	20	0.5	0.43	"
3	15	0.5	0.32	"
4	17	0.5	0.36	"
5	21	0.5	0.45	"
6	19	0.5	0.40	"
Mechanism				
1	21	0.5	0.45	"
2	17	0.5	0.36	"
3	22	0.5	0.47	"
4	11	0.5	0.23	"
5	14	0.5	0.30	"
6	16	0.5	0.34	"
Complex Over Response				
1	12	0.5	0.26	"
2	18	0.5	0.38	"
3	11	0.5	0.23	"
4	14	0.5	0.30	"
5	13	0.5	0.28	"

6	17	0.5	0.36	“
Adaptation				
1	22	0.5	0.47	“
2	18	0.5	0.38	“
3	21	0.5	0.45	“
4	17	0.5	0.36	“
Origination				
1	12	0.5	0.26	“
2	14	0.5	0.30	“
3	13	0.5	0.28	“
4	16	0.5	0.34	“

IN = Improvement Needed

The data presented in the table revealed that the mean scores of the lecturers in the 6 items at the Perception, set, guided response, mechanism and complex overt response and 4 items at adaptation and origination levels of the domain ranged between 0.23 and 0.47 and were less than 0.5. Therefore, they require improvement in developing Activity-based multiple choice items in all the 7 levels of the domain for measuring students' performance in activity-based components of the Colleges of Education curricula.

3.1 Discussion of Results

The result of this study on Improvement Needs of Lecturers in developing Activity-based multiple choice items in Colleges of Education in South-south, Nigeria is in conformity with the statement in the National Policy on Education (GRN 2004), that all teachers in Educational Institutions shall be professionally trained and that Teacher Education Programmes shall be structured to equip teachers for effective performance of their duties. The result of the study is in consonance with Aguolu (2004) in his study on competency-improvement needs of supervisors of teachers of agriculture in primary and post primary schools in Federal Capital Territory, Abuja where the researchers found out that supervisors of Teachers of Agriculture needed improvement in 8 modules with their 97 corresponding supervisors competencies in which Supervisors of Teachers of Agriculture required improvement. The findings of this study also agreed with Sowande (2002), in a study on Technical Competency Improvement Needs of Metal work Teachers in Nigeria Colleges of Education. The author found out that metal work teachers needed improvement in 80 competency items for better performance on the field.

The above finding is in agreement with the opinion of Olaitan in Ukonze and Olaitan (2009) who stated that the teachers of Agricultural Education are expected to be technicians in Agriculture dealing effectively with the cognitive, psychomotor and affective outcomes and, therefore, they are expected to be knowledgeable, skillful and competent in Agricultural Education. This study is also in conformity with Ukonze and Olaitan (2009) in a study on Capacity Building Need of Teachers for Effective Teaching of Agriculture science in Anambra state. It was found out in the above study that teachers in Anambra state needed capacity building for effective teaching of agriculture in the areas of planning instruction, implementing instruction, evaluating instruction and helping students manage practical activities in the farm for their professional growth.

4. Conclusion

From the result of this study, it was discovered by the researchers that lecturers in Colleges of Education in South-south, Nigeria needed capacity building for effective development of Activity-based skill test items to measure the performance of students to determine the achievement of the psychomotor objectives of the curricula. There is therefore a serious need to ensure that the lecturers are retrained. On this note it is recommended that identified competencies where lecturers of Colleges of Education need capacity building for effective development of Activity-based skill multiple choice test items for measuring the achievement of psychomotor objectives of Colleges of Education curricula in South-south, Nigeria be packaged into a training programme to be utilized in retraining the lecturers through workshops and seminars.

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