

Issues in Contemporary Evaluation

Edited by

Olajide Olorunnisola
Adams Otuoze U. Onuka
Oyebamiji Babalola
Aderemi I. Alarape
S. A. Babarinde

UNIVERSITY OF IBADAN LIBRARY

ISSUES IN CONTEMPORARY EVALUATION

UNIVERSITY OF IBADAN LIBRARY

Edited By
Olajide Olorunnisola
Adams Otuoze U. Onuka
Oyebamiji Babalola
Aderemi I. Alarape
S. A. Babarinde

Published by
The Postgraduate School,
University of Ibadan,
Ibadan, Nigeria.

E-mail: postgrad@mail.ui.edu.ng

Website: <http://www.postgraduateschool.ui.edu.ng>

First Published 2013

No part of this publication may be reproduced, stored in a retrieval system or transmitted by any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the expressed written consent of the copyright owner.

All rights reserved

ISBN 978- 978-50948-7-9

Printed by Sapphire Prints
08034892535. 08070709894

Contents

Foreword	vii
Preface	viii
Acknowledgements	x
Notes on Contributors	xii
Chapter 1 Issues in Contemporary Evaluation: An Overview <i>Mac Ade Araromi</i>	1
Chapter 2 Concepts in Evaluation including Evaluation <i>For and of Learning</i> <i>Charles V. Abe</i>	5
Chapter 3 Determining Learning and Evaluation Objectives (1) <i>Monica N. Odinko</i>	15
Chapter 4 Determining Learning and Evaluation Objectives (2) <i>Ikmat O. Junaid & Ifeoma M. Isiugo-Abanihe</i>	27
Chapter 5 Test Construction and Administration <i>Joseph. A. Adegbile</i>	36
Chapter 6 Continuous Assessment: Concept, Practices and Tools <i>Monica N. Odinko</i>	45

Contents

Chapter 7 Non-Cognitive Evaluation Tools <i>Benson A. Adegoke</i>	63
Chapter 8 Construction of Non-cognitive Instruments <i>Eugenia A. Okwilagwe</i>	73
Chapter 9 Test Security <i>Adams O.U. Onuka</i>	88
Chapter 10 Evaluation in Science <i>Modupe M. Osokoya & Tolulope.W. Yoloje</i>	97
Chapter 11 Evaluation in the Humanities and Social Sciences <i>Folajogun V. Falaye & Serifat F. Akorede</i>	111
Chapter 12 Test Development <i>Joshua O. Adeleke</i>	128
Chapter 13 Evaluation as Feedback Mechanism for Quality Assurance and System Improvement <i>Folajogun V. Falaye</i>	151
Chapter 14 Item Banking <i>Adams O. U. Onuka</i>	167
Chapter 15 Computer Based Testing: Principles and Practice <i>Jeremiah G. Adewale</i>	179

Chapter 11

Evaluation in the Humanities and Social Sciences

Folajogun V. Falaye & Serifat F. Akorede

Introduction

Evaluation is central to all facets of educational programme, and it is a vital component of the process of education. Even though the term evaluation is viewed from different perspectives and defined in various ways by different authors and evaluators (Alkin, 1972; Guba, and Stufflebeam, 1970), there seems to be congruence in the functions evaluation serves, which is to ensure that quality education is maintained and improved, and ultimately for accountability.

The concept of evaluation is very broad. In the teaching-learning process, other related concepts –assessment and measurement- are used synonymously with evaluation often times, resulting in some confusion around them (Walls, 2007). Measurement is the process of determining how much knowledge or attribute a student has acquired (Falaye, 2005). It is a one dimensional operation which can be performed using a variety of measuring instruments (Falayajo, 2004). Testing is one of the methods of measuring what students have learnt. Ajala (2005) succinctly describes 'testing as a measurement activity that attempts to quantify what a student has learnt or how well a designated trait is reflected'.

Assessment is defined as the processes and instruments applied to measure learners' achievements, normally after they have undertaken a learning programme or the other (Abe, 1999; Wall, 2007). This definition seems to equate assessment to testing the learners. However, assessment of the learner goes beyond testing alone. For it to be objective and comprehensive, assessment of students' achievements is based on the use of a variety of methodologies. To Dahms (2008), assessment means judging students' performance whether they have achieved the learning outcomes, which are sets of competences that express what the students will know, understand or able to do after completion of a process of learning.

On the other hand, evaluation is the process of obtaining information about a course or programme of teaching for judgment and decisions to be taken about the programme. Ajala (2005) defines evaluation as a 'process in which value judgments, based on information accumulated from many and varied sources lead to informed decisions'. These interrelated concepts- testing/measurement, assessment and evaluation, connote different stages that lead to the same purpose of making decisions about the entire system of education (Falaye, 2005).

In the process of education, evaluation popularly focuses on how successful learning has taken place and also focuses on student's performance in different courses of study. Although there is a point of agreement in the purpose of evaluating student's learning, the methods employed vary from one discipline to the other, and are mainly driven by the goals of instruction in the subject areas.

The Humanities and Social sciences are broad disciplines with different subject areas, which appear to attract high students' patronage at the secondary and tertiary levels of education. In this discourse, the general goals of tertiary education as spelt out in the National Policy on Education (FRN, 2004) and the objectives of the Humanities and Social sciences are highlighted. Also, evaluation could be undertaken at two main levels, at the level of programme and student level (Adegbile, 2009). However, in this paper, the focus is more on evaluation of student performances in the humanities and social sciences. General methodology approaches to evaluating student's performance in the two broad areas are presented, pinpointing the peculiarities, where they exist, in the different subjects.

The Goals of Tertiary Education

According to the NPE document FRN, (2004:36) the goals of tertiary education that is necessary for system performance are to:

- Contribute to national development through high level relevant manpower training.
- Develop and inculcate proper values for the survival of the individual and society.
- Develop the intellectual capability of individuals to understand and appreciate the local and external environment.
- Acquire both physical and intellectual skills for self-reliance.

- Promote and encourage scholarship and community service.
- Forge and cement national unity
- Promote national and international understanding and interaction.

Objectives of the Humanities and Social Sciences

Humanities

The objectives of the humanities including visual and performing arts in a core curriculum are to expand students' knowledge of the human condition and human cultures especially in relation to behaviour, ideas and values expressed in works of human imagination and thought. Through study in disciplines such as literature, philosophy and the visual and performing arts, students will engage in critical analysis, form aesthetic judgments and develop an appreciation of the arts and humanities as fundamental to the health and survival of any society.

Educational Objectives

- To demonstrate awareness of the scope and variety of works in the arts and humanities.
- To understand those works as expressions of individual and human values within an historical and social context.
- To respond critically to works in the arts and humanities.
- To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist.
- To articulate an informed personal reaction to works in the arts and humanities.
- To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts.
- To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intellectual experiences.

Social and Behavioural Sciences

The objective of a social and behavioural science component of a core curriculum is to increase students' knowledge of how social and behavioural scientists discover, describe and explain the behaviours and interactions among individuals, groups, institutions, events and ideas. Such knowledge will better equip students to understand themselves and the roles they play in addressing the issues facing humanity.

Educational Objectives

- To employ the appropriate methods, technologies and data that social and behavioural scientists use to investigate the human condition.
- To examine social institutions and processes across a range of historical periods, social structures and cultures.
- To use and critique alternative explanatory systems or theories.
- To develop and communicate alternative explanations or solutions for contemporary social issues.
- To analyze the effects of historical, social, political, economic, cultural and global forces on the area under study.
- To comprehend the origins and evolution of political systems, with a focus on the growth of political institutions, the constitution, federalism, civil liberties and civil and human rights.
- To differentiate and analyze historical evidence (documentary and statistical) and differing points of view.
- To recognize and apply reasonable criteria for the acceptability of historical evidence and social research.
- To analyze, critically assess and develop creative solutions to public policy problems.
- To recognize and assume one's responsibility as a citizen in a democratic society by learning to think for oneself, by engaging in public discourse, and by obtaining information through the news media and other appropriate information.
- To identify and understand differences and commonalities within diverse cultures.

Source: <http://www.blinn.edu/corecurriculum/characteristics.htm>

Purpose of Evaluation

Evaluation of students' achievement in education serves many useful purposes. Obemeata (2005) presents a dual role of students' assessment. One is that which relates to students' achievement, while the other relates to the education system as a whole. Okoro (2000), while highlighting the roles of assessment and evaluation, clearly distinguishes their values to parents and the policy makers alike.

Specifically in the classroom, assessment has several purposes and functions. According to Gipps and Stobart (1993), the purposes of assessment include screening (testing group of students to identify those who may need special help); diagnosis (using tests to identify individual learners' strengths or, more usually weaknesses), record-keeping (recording scores on tests), feedback on performance (using assessment results to provide information to a variety of groups), motivational (motivates and helps students structure their study), certification (to provide qualifications, which signify particular levels of competence or knowledge) and selection (to identify selected pupils who are capable of the particular levels of competence and performance required for a possible next step). The internal purposes of assessment include conveying to students expectations about what is important to learn, providing information to students and parents about students' progress, helping students to judge their own learning, guiding and improving instruction, classifying and selecting students. The external purposes on the other hand serve the needs of those on the outside of the school. They include providing information for accountability systems, guiding policy decisions on funding, staff development, and gathering information for programme evaluation, sorting and classifying people for admissions, certification or employment.

Types of Evaluation

Expectedly, the various purposes and functions of evaluation suggest that there are various types of evaluation. However, the two basic types of student evaluation discussed here are the formative and summative evaluation. Formative evaluation is guidance oriented and it is done while teaching-learning is on-going. It attempts to identify the content of instruction which have not been mastered by the students, and also to appraise the level of cognitive abilities such as memorization, classification, comparison, analysis, explanation, quantification, application and so on. In other words, formative evaluation provides the evaluator with useful information about the strengths or weaknesses of the students within an instructional context.

Summative evaluation involves overall judgment of performance after teaching-learning process has taken place. It is primarily concerned with the outcomes of the teaching-learning process. It attempts as far as possible to determine to what extent the broad objectives of the

teaching-learning process have been achieved. It is based on the following assumptions:

- That the behavioural objectives are achievable.
- That the teaching-learning process has been conducted efficiently.
- That the teacher-student material interactions have been conducive to learning.
- That the teaching techniques, learning materials and audio-visual aids are adequate and have been judiciously dispensed.
- That there is uniformity in classroom conditions for all learners.

Based on these, formative evaluation is termed *Assessment for Learning*, while summative evaluation is called *Assessment of Learning* (McMillan, 2007).

At the tertiary level of education, the semester examination given at the completion of a unit course could represent both formative and summative evaluation of student learning. It could operate at the level of summative evaluation since it is given at the end of a unit course of study. The scores derived from end-of-course semester examinations are fed into the system for calculating the aggregates of students' Cumulative Grade Point Average (CGPA) leading to certification. At this level, student evaluation is summative.

Evaluation Methods and Tools

Generally, evaluation and assessment procedures can be categorized into two:

- Direct Methods
- Indirect Methods

Direct methods of assessment are those that evaluate the products of students' work in light of the learning outcomes. Examples of direct tools are tests, projects and assignments.

Indirect methods of assessment are those in which students themselves judge their own ability to achieve the learning outcomes. They are not based directly on student academic work but on what they perceive about their own learning. In essence, the assessment is based on perception rather than direct demonstration. Examples are student self-efficacy, student attitudinal surveys, exit interviews and employer

surveys. Unfortunately, these are almost completely left out of student evaluation in the Humanities and the Social sciences.

Courses grouped as the Humanities include the languages, literature, history, classics, and philosophy, while the popular Social science courses include geography, economics, political science, sociology, anthropology and psychology. All these fields of education have their peculiarities and should therefore be taken into consideration when students' performance is being evaluated. Also, in line with the educational objectives of the Humanities and the Social sciences, to conduct a comprehensive evaluation of student learning, the three domains of educational objectives must be targeted using appropriate tools. The discussion here is limited to the direct methods of assessment in the cognitive, affective and psychomotor domains of learning.

Evaluating Cognitive Domain

In evaluating students' cognitive domain of learning, achievement tests are commonly used which are either standardized or made by the teachers. Achievement tests are usually constructed to determine the status of an individual student on completion of a course of study or training. Test experts have classified achievement tests using different criteria. Some classify tests on the basis of the behaviour that is being measured; others classify them based on the type of items contained in the test, the purpose of the test and so on.

Types of Achievement Tests

Achievement tests may be classified as essay-type and objective-type, each one is further sub-divided.

Essay-Type test: In essay-type, students are expected to generate, organize, express and integrate ideas as they solve problems. The students are free to express themselves, thus presenting answers in a continuous and connected style of writing. Essay tests are of two types:

- Extended Response type, and
- Restricted Response type.

The essay type of tests is mostly used in the Humanities and the Social sciences

Construction of Essay Tests

To construct essay tests, the teacher must:

- State the instructional objectives in specific terms.
- Outline the course content.
- Prepare the table of specification (test blue prints).
- Write the test items according to the table of specification.

A table of specification, also known as the test blueprint, is a way of ensuring that the assessment adequately covers materials prescribed in the course content thereby increasing the validity of the test.

Objective Test: There are different types of objective tests. The major ones are:

- Fill-in type, which could be
 - Short answer, or
 - Completion type
- Selection type, which could be
 - True or false
 - Matching type, and
 - Multiple choice questions (MCQ) type

Of the different types of objective tests, the most widely used is the MCQ apart from essay tests. Although the use of objective test has not been a common practice at the tertiary level, it is now being considered due to the high student population. Even though an achievement test should sample the spectrum of cognitive skills, namely: Knowledge, Comprehension, Application, Analysis, Synthesis and evaluation (Bloom 1956) at the tertiary level, the higher levels- analysis, synthesis and evaluation- are more often tested. Also, it is widely believed that MCQ measures learning tasks involving knowledge, understanding and application; analysis, synthesis and evaluation could also be assessed depending on the dexterity of the instructor in constructing MCQ. (Readers may consult Onocha and Okpala, (1995) and Onosanya, (2005) for detailed description of achievement tests).

Oral Examinations

As opposed to written examination, in an oral exam one student is interviewed by one or more examiners. Usually the students are asked to tell the examiners what they know about some topics or what they have reported in their projects, dissertations or theses. The oral examination has some advantages. Since the exam is 'face-to-face', the

examiner can ask for more detailed information and can probe to find out how much the student knows. However, students are often made extremely anxious thereby stressing them. As a result, many students get lower marks than they would obtain from other methods of assessment. Orals also take a lot of time and have frequently been criticised because the marks given are unreliable. Furthermore, the oral examinations rarely test important skills and do not usually help learning. It is used summatively at the university level where students defend their projects, dissertations or theses for the award of first, second or doctorate degrees respectively. Most often, the scores are not included in the calculation of the student's overall CGPA, but used as a form of validating the content of the reports prepared by the students.

Evaluating Affective Domain

Some learning outcomes are too complex to be measured using paper and pencil tests. Non-cognitive behaviours such as students' interest, attitudes and motivation for instance cannot be directly evaluated. Of the different types of tools used in the affective domain, the Questionnaire and Rating Scale are most popular. Unfortunately, the affective domain is mostly neglected, while evaluating learning outcomes in the Humanities and the Social sciences even at the tertiary level.

Evaluating the Psychomotor Domain

The psychomotor (psycho-productive) domain, which involves physical skills, that is what the students can do or make in addition to what they know are most often neglected in classroom evaluation. Assessment of educational objectives in practical examinations falls under the psychomotor domain. Evaluation of practical tests involves two aspects:

- Assessment of the degree of performance skills exhibited by the students i.e. process at performing the tasks set in the practical examination.
- Assessment of the quality of the output, that is, the product emanating from the process.

Most times, it is difficult to separate the process from a product (Mehrens and Lehman, 1978), as such; emphasis had been concentrated on product assessment at the detriment of process assessment. In the

humanities and the social sciences, students' psycho productive skills are tested in only a few courses such as cartography, map making and interpretation aspects of geography and fine art.

Qualities of Good Assessment Tools

Several criteria are used for evaluating the appropriateness of tools for assessing learning outcomes such as tests. The three important ones discussed here are:

- Validity;
- Reliability; and
- Practicability.

Validity

Validity refers to the extent to which a test measures what it purports to measure, that is the extent to which it fulfils the purpose for which it is intended. For instance, a test designed to measure economics should not measure English language. The degree of validity of a test could be low, moderate or high. Of the different types of validity, the face validity and content validity are easily established by the classroom teacher.

Face validity is established on superficial basis using expert judgment. The help of experts in the same field such as colleagues can be sought to examine the test vis-a-vis its content and the distribution of the items over the topics. The comments from the experts are used to modify the test.

Content Validity is the systematic examination of items in an entire test to find out whether it adequately covers a representative sample of the content (cognitive, affective and psychomotor) and the behaviour objectives (knowledge, comprehension, application, analysis, synthesis and evaluation) intended to be measured. Similar to face validity, content validity is determined by experts who are knowledgeable in the subject area. Its level of subjectivity can be reduced if test items are constructed using a table of specification or test blue-print.

At the tertiary level, attempts are made to ensure validity by moderating examination questions internally and externally before test administration.

Reliability

Reliability is the degree of consistency between two sets of scores obtained with the same instrument, that is, how consistent or error free the instrument is. It implies that when a test instrument is used, it may not be possible to have the same score all the time. If the test were to produce a reliable result, the scores arrived at in repeated measurements should remain nearly the same. Like validity, reliability is a matter of degrees; it may be low, moderate or high. It is important to note that reliability is a measure of consistency of the marks and not the test.

Practicability

Otherwise known as usability, in addition to reliability and validity, a good instrument must also be practicable. Practicability touches on the type of test to construct to elicit desired responses that satisfy the purpose of the test, administration of the test considering the prevailing conditions in the school, ease of scoring, bearing in mind the number of students and interpretation. In considering the usability of an instrument, therefore, the examiner must check the prevailing condition where the instrument is going to be administered on the students, and provide clear instructions and time limit. All these factors should be given serious considerations before an instrument is constructed.

Marking and Scoring

Marking students' answer scripts and scoring the items are essential components of classroom evaluation. To minimize bias, scoring must be guided by a set of criteria that must be pre-determined. Marking and scoring are discussed with respect to different assessment instruments commonly used.

Mark Essay Items:

The marking of essay items is done using:

- Analytic marking, and
- Impression marking

Analytic marking involves deciding precisely what to be assessed and allocating marks to the various aspects of the essay. Careful consideration must be given to the allocation of marks to the various components of the essay. For example, if grammar, handwriting and

spellings are to be assessed, it should be decided before marking. The students must be informed. Therefore, a marking guide must be prepared, and it is better done while setting the test items. The total score of a student is obtained by adding up the scores assigned to the different components.

Impression marking requires very minimal scheme or a scheme may not be prepared at all. It is therefore a simple and rapid method of scoring essay items. The examiner reads through a question rapidly, forms a general impression and gives a score. The reliability of scores obtained by this method is lower than that obtained using the analytical method. To increase the reliability index of impression marking, more than one examiner may mark a question or the entire script. However, this may not be feasible in many of the courses in the Humanities and the Social sciences because of high student population. Lecturers switch between analytic and impression marking depending on the population of the students and the purpose of the assessment. The next section briefly discusses the marking guide or scheme.

Marking Guide

A marking guide can be described as a checklist or an outline that shows a breakdown of an essay test into specific points the student is expected to provide, the scores that would be attached to each point, and finally, how the examiner is expected to derive the scores of the student. In preparing a marking scheme, the examiner must:

- determine the function which the test is to perform,
- base it on content criteria (presence of knowledge and accuracy of the knowledge), organizational criteria (the style of presentation), and process criteria (behaviour objectives such as application, analysis, synthesis etc).
- allocate marks to each of the component parts into which the answer has been broken, this reduces subjectivity and increases the consistency and accuracy of marking.

Scoring Multiple Choice Questions

Generally, if objective tests are correctly and carefully developed, each item should have only one correct answer which is predetermined, thus marking objective tests present little or no problem as regards the issue of objectivity and reliability of scoring.

MCQ can be scored using two basic methods:

- Hand marking, and
- Machine marking.

Hand marking: is a manual method of marking MCQ by counting the student's correct responses item by item, where the questions are answered on the booklet. If separate answer sheets are used, a stencil can be prepared and used for ease of scoring. The examiner simply counts the correct options after carefully and correctly placing the stencil on the answer sheet.

Machine Marking: Scoring machines of various configurations and levels of sophistication are now being used. With the use of machines, scoring is faster and it reduces errors. Unfortunately, despite the large population of students in the tertiary institutions in Nigeria, scoring machines are not available except in few public examining bodies such as NECO, WAEC and JAMB.

Marking Practical Examinations

Analytic approach is used in marking practical examinations. Both the process and products of the practical tasks should be scored. In marking practical examinations, the examiner lists the various process/product to be assessed, the criteria for assessing them, and awards scores based on the extent to which the steps are followed by the students. To ensure fairness, examiners should stick rigidly to the list and its corresponding scores.

Reducing Subjectivity in the Evaluation of Student Performance

Objective tests, as the name implies, reduce subjectivity in evaluating student's achievement. At the tertiary level, it is believed that objective tests are susceptible to guessing, do not test the higher levels of cognition, and do not reveal the writing prowess of students. For these reasons they are seldom used to evaluate student learning, whereas, essay questions are mostly used. To ensure objectivity in essay marks, there must be:

- **Moderation of questions and answer scripts:** In the humanities and social sciences, there is multiplicity in responses to questions unlike the core sciences or mathematics that are specific. This is

because there is diversity of opinions on issues, while there are specific units of measurement for variables such as temperature, weight and height in the sciences. Therefore, moderation eliminates the inadequacies of the measurement procedure. It ensures that the test and testing procedure are efficient and that subjectivity is reduced to the barest minimum. This will enable lecturers to present reliable results of student performance. In higher institutions, moderation of questions and answer scripts are carried out both internally by experienced lecturers in the various departments, and externally using experts from outside the institution but in the same discipline.

- **Make all students answer the same questions:** Even when questions do not have the same level of difficulty, making students respond to the same items would have levelled out the differences in difficulty. Where students are allowed to choose from a set of questions, the questions must be equivalent, that is, they must have similar level of difficulty.

Mark the answers to the same item for all the students: It is more reliable to mark the same item for all the students before examiners move to another item. It means that lecturers should not mark all the items contained in an answer script of a student one after the other.

Score scripts blindly to reduce halo effect:

Other factors affect scoring. Personal disposition of the examiner such as mood may affect the reliability of marks and also, time and venue of marking.

Grading and Interpretation of Results

Assessment of students' performance does not end with the award of scores, as the scores are meaningless in themselves. Therefore, to make the scores meaningful, they must be interpreted. Students' performance on a test is interpreted using two basic approaches namely:

- Norm referenced interpretation; and
- Criterion referenced interpretation

Norm referenced interpretation: This approach to interpreting students' performance describes an individual performance with reference to the performances of other students within the group.

It indicates how the individual student's performance compares with others who took the same test.

Criterion referenced interpretation: Criterion referenced interpretation describes the performance of each student without reference to the performances of other students in the group. Rather, the performance of each student is interpreted in terms of specific behaviour that can be exhibited. The performance levels are predetermined before the marking. At the tertiary level, students' scores are mostly interpreted using the criterion referenced approach.

Conclusion

Evaluation is an integral part of the teaching and learning process. It should be emphasized that no method of assessment and evaluation is perfect. Each has its advantages and disadvantages. The method to use must be dictated mainly by the objectives intended to achieve. Ideally, the teacher should first decide what skills need to be assessed. These skills are, of course, the objectives of the course. Then the best method should be chosen for assessing the skills. The method should be chosen on the basis of regulations for the course, economy of time, reliability, validity, and its value as a learning tool. It is, therefore, important that teachers/instructors master the various tools of assessment and be able to select appropriate ones for use in the classroom. Also, all the three domains of learning should be evaluated instead of the narrow concentration on the cognitive aspect. In addition, the teacher should use a variety of methods whenever this is possible to achieve valid results.

References

- Abe, C., V. (1999). Educational evaluation and quality control in secondary education in Nigeria. In Obemeata, J. O. Ayodele S. O. & Araromi, M. A. *Evaluation in Africa*. Sterling- Horden Publishers (Nig.) Ltd.
- Adebile J.A (2009). *Evaluation in curriculum and instruction*. Powerhouse press and publishers, Ibadan.

- Ajala, J.A. (2005). Evaluation in student classroom performance. In Emeke E. A. & Abe C. V. (eds.) *Evaluation in theory and practice*, Pen services Ibadan, Nigeria.
- Alkin, M., C. (1972). Evaluation theory development. In Weiss, C. H. (ed). *Evaluating action programmes. Readings in social action and education*. Allyn and Bacon Inc.
- Bloom, B.S, (1956). Taxonomy of Educational Objectives. Handbook 1 : The Cognitive Domain. David Mckay Co Inc, New York.
- Dahms, M. (2008). Assessment of Learning outcomes in engineering and international perspective. Being a Paper presented at Aloe conference 2008.
- Falayajo, W. (2004). Methods of Evaluation. In Afemikhe O.A. and Adewale J.G. (Eds) *Issues in Educational Measurement and Evaluation in Nigeria*. Educational Research and Study Group, Institute of Education, University of Ibadan, Ibadan, Nigeria.
- Falaye, F.V. (2005). Evaluation as a tool for effective teaching and learning. In Emeke E. A. & Abe C. V. (eds.) *Evaluation in theory and practice* Pen services Ibadan, Nigeria.
- Federal Government of Nigeria (FRN, 2004). *National Policy on Education*, Federal Ministry of Information.
- Guba, E., G. & Stufflebeam, D.L. (1970). *Evaluating the stimulation, aiding and abetting insightful action*. Indiana University.
- Obemeata, J.O. (2005). Measurement and Evaluation in Education. In Emeke A.E. and Abe C.V. (Eds), *Evaluation in Theory and Practice*. Pen Services. Ibadan.
- Okoro, O.M. (2000): *Measurement and Evaluation in Education*. Pacific Publishers Obosi, Anambra State, Nigeria.
- Onasanya, K. (2005). *Evaluation of student achievement*. Bestway Printing Nigeria Ltd, Lagos.
- Onocha, C. O. & Okpala, P., N. (1995). *Tools for Educational Research*. Stirling-Horden Publishers (Nig.) Ltd.
- McMillan J.H. (2007). *Classroom Assessment*. Principles and Practice for Effective Standards-Based Instructions. Pearson USA.

Mehrens, W.A., and Lehmann, I. J. 1978, *Measurement and Evaluation in education and psychology*. New York, Holt, Rhinehart and Winston Inc.

Wall, D. (2007). *Evaluation: Improving practice, influencing policy*. Association for the Study of Medical Education, ASME.

Bibliography

Adeleke, J. O. (2010). *The basics of Research and Evaluation tools*. Published by Somerest Ventures, Ikeja- Lagos.

Ogunniyi, M. B. (1990). *Educational Measurement and Evaluation*. Longman Nig. Ltd. Ikeja-Lagos State, Nigeria.

UNIVERSITY OF IBADAN LIBRARY