SOME FUNDAMENTALS OF EVALUATION IN MANAGING OPEN AND DISTANCE LEARNING

EDITED BY ADAMS OTUOZE U. ONUKA

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Part One

Chapter One

ESSENTIALS OF EVALUATION IN OPEN DISTANCE LEARNING PROGRAMMES

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INTRODUCTION

This paper focuses on essentials of evaluation in open distance learning programmes and intends to help stakeholders (facilitators, course writers, administration, and students) rethink and perhaps redesign, how we plan the teaching-learning process. Traditionally, evaluation has been taken to mean measuring learner's achievement in any particular branch of learning. It has equally being used interchangeably with the term assessment. The objective of this paper is to ensure that course facilitators are able to operationally define evaluation, differentiate it from other concepts (Measurement and Assessment) which are used interchangeably with evaluation, know the different types of evaluation a course writer/facilitator can use when conducting evaluation studies in distance situation, understand when to use them as well as acknowledge the fact that there is a lot more to evaluation beyond the view shared by many. This chapter is divided into two sections. The first section discussed the essentials of evaluation in

Open Distance Learning programme whereas the second section though mutually exclusive centered on issues concerning determining instructional objectives by the facilitators. The issues discussed therefore include:

1. Definitions of concepts measurement, assessment and Evaluation
2. Their differences
3. Overall view of Evaluation of Students' Learning Achievements.
4. Types of Evaluation
5. Purposes of Evaluation
6. Determining Instructional Objectives

Objectives of the Section

After going through this chapter, the reader should be able To:

- Define the terms Measurement, Assessment and Evaluation
- Differentiate among the terms.
- List some types of evaluation and the major differences between them.
- Discuss the basic purposes and uses of different types of evaluation.
- Describe the important variables of concern when planning evaluation study.

1. Definition of concepts Measurement, Assessment and Evaluation and their differences

MEASUREMENT

Open Distance Learning programme organisers are faced with the function of providing information on one aspect of

the programme or another. Providing such information may require providing quantitative indices. To generate such information would require some aspects of measurement. For instance, course facilitators and school administrators are usually faced with such questions as: what is the performance of year one students in .the courses the students were exposed to? How many students are involved in the programme? How many of the students are males/females, computer literate, have access to computers and internet facilities at home? Providing answers to questions such as these would require those in charge of examinations, administration officers to measure the students' achievement level and bio-data information generated from the students. Measurement is the assignment of numerical values to entities and events. Numbers are assigned to such information generated. The major tools that could be used are test/examination, dialogues; quizzes; projects; checklist. Tests can be administered using two general methods. They include the use of:

- ➢ **Choose-a-response assessments: this entails** asking students to pick a response from a given list. Examples include: multiple-choice, true/false, or matching tests.
- ➢ **Alternative assessments** which generally involves asking students to respond freely to a question. Some examples are: short-answer questions, essays, performance tasks, oral presentations, demonstrations, role plays, research papers, group work presentation, among others

Tests do provide scores and score are numbers. These numbers are indicators of how much the learners have benefitted. Measurement is not evaluation but can provide useful data for evaluation. Information generated by ODL programme organisers through measurement used for quantitative description of learning behaviours and bio-data of the students. Qualities of a good measurement instrument includes that it must be *Reliable, Valid, Practicable and Economical.*

ASSESSMENT

The term assessment is often used interchangeably with the *measurement*. However, it has broader meaning than measurement and narrower than evaluation. In ODL programmes, assessment provides a way to measure students' demonstration of learning. It can help course facilitators/administrators answer such questions as: "What is the nature of performance of year two ODL student in Political Science 202? How much did they learn?" and "How well did they learn it?" and "How well did we teach it?". Some evaluation experts assert that to assess means to "sit beside" or "to assist to judge". In evaluation studies, the term assessment means the process of gathering the data and fashioning them into interpretable form to aid those who will pass judgement on them. Assessment data, as opposed to simple one-dimensional measurement, can be generated using multiple techniques (tests, questionnaires, interviews, rating scale). Assessment expert **Grant Wiggins** differentiates between assessment and evaluation in this way: "When teachers ASSESS student performance, they're not placing value or judgement on it -- that's EVALUATING or grading. They're simply reporting a student's profile of achievement."

Ways that data could be fashioned into interpretable forms include:

1. Ungrouped data (scores recorded as they appeared). These could be arranged in ascending or descending order or left as they were recorded. E.g. 40, 40, 43, 45, 45, 54, 56, 56, 56, 56, 56, 58, 60, 60, 63, 67, 67, 67, 67, 67, 70, 71, 71, 73 or 40, 56, 56, 67, 70, 58, 40, 60, 43, 67, 54, 45, 45, 71, 67, 56, 56, 56, 67, 73, 67, 63, 71, 60.

2. Grouped data clustering of scores to reduce volume; (those arranged using tallies)

   E.g.
   40 50 = 5 ┼┼┼┼
   51 60 = 9 ┼┼┼┼ ┼┼┼┼
   61 70 = 7 ┼┼┼┼ ┼┼
   71 80 = 3

3. Graphic representation -Histogram, Bar chart,
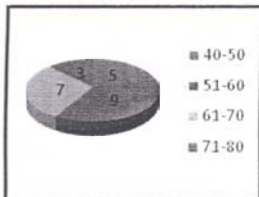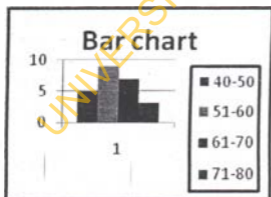
What are the likely problems associated with these

◆ If the course facilitators arrange scores generated this way (clustering), information may be lost or misinterpreted,

◆ Could lead to poor/or exaggeration of how much learning that have taken place as well as the level of achievement of the intended objectives.

4. Measures of central tendency. Find the mean (average), of the general scores obtained by all the students who took the course(s), find the highest and the lowest scores, calculate the range among others. Median (middle score after scores has been arranged) and Mode (most frequently occurring score).

Instruments that could be used include:
◆ Tests,
◆ Interview schedules
◆ Questionnaire
◆ Rating scales
◆ Checklists

When carrying out assessment activity, the role of the facilitator/course writer includes:
◆ planning of curriculum with the objectives (what he/she intends all students to achieve) of the content as the guide.
◆ using the results of assessment data to plan further instruction.
◆ The facilitator source for materials to teach with, best methods that would aid mastery, or even resource persons/facilitators if he finds that a number of students are still lagging in some content areas. For instance, the facilitator can plan a unit based on the finding and consult primary sources. Other experts (e.g. in Language arts education, if students need to develop better oral skills, the teacher might collaborate with the

native speakers to enhance the students' speaking skills) could be used as resource persons.

The function of assessment to ODL students in teaching - learning situations include:

◆ When this is incorporated in the students' learning pack given to them during registration, it enables them have a good idea of what they are expected to accomplish and how they can demonstrate their knowledge.

◆ This can influences the way the students interact with the study kit (study habits) as well as the facilitators and peers.

Assessment can also influence the duties of ODL administrators.

1. Assessment results can help ODL administrator provide information on different aspects of the programme. These aspects may include performance of the students, type and adequacy of course materials, teaching aids as well as number of staff and students in the programme.

2. ODL administrators can adopts equivalent information generated by the facilitators and uses it to define the desired performance level, and sets conditions to facilitate its accomplishment. This information should be detailed in students' hand book.

3. The information generated from assessment can aid Open Distance Learning programme administrators re-evaluate their views about staff development. It can give them an insight on how long vacation period will take, how many weeks of teaching/revision periods are required. How long would be allowed for common preparation times so teachers can plan curricula

together; allocate more money for substantive staff development and training; and review on admission requirements.
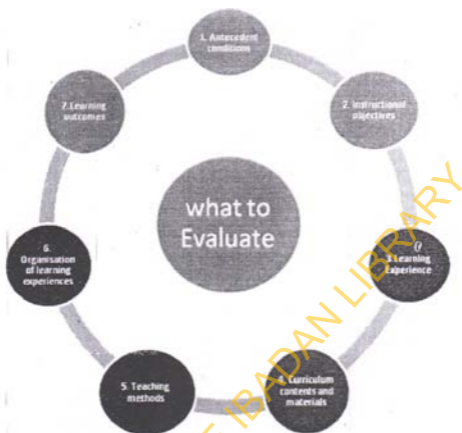
EVALUATION

A simple straightforward dictionary definition of evaluation is: *"to put a value on something after thinking"*. This definition is very important in that it looks at evaluation from a positive perspective that seeks to put a value on activities rather than devalue them. However, it is also important to look at this concept from other perspectives. According to Okpala and Onocha (1994), evaluation could be defined as "determination of the worth of the results of some activities (social programme, curriculum packages, teaching strategies, etc) designed to accomplish some valued goals. To Gronlund (1976) it is a systematic process of determining the extent to, which instructional objectives are achieved by pupils. Whereas, Travers (1955) sees it as not merely a process of determining what actual outcomes are, but as a process that involves judgment of the desirability of whatever outcomes are demonstrated to occur. Thus, from the foregoing, evaluation of ODL programme could be defined as the systematic process of generating information on relevant factors which if put in place can help in aiding the achievement of the stated objectives of setting up the ODL programme and using the results to determine the effectiveness of the programme in solving problems in the society within which they operate.

Based on the above listed definitions of evaluation, carrying out evaluation studies therefore demands asking some questions which may synchronize with the objectives of the educational programme being evaluated. For instance such evaluation questions may include:

- Is the educational experience provided in programmes suitable for the ODL participants?
- Are the objectives of the programme good enough to alleviate the problem of the society for which the programmes serve?
- Are the *antecedent conditions* put in place (quality and quantity considered) before the programme commenced?
- Are the curriculum contents and teaching methods suitable?
- How appropriate are the assessment tools?
- How valuable are the curriculum outcome?

From the forgoing, such words as 'suitable", "good enough", and 'appropriate, useful', "valuable" all connote judgment. Information gathered to provide answers to such questions would emphasise how good or bad the said educational programme is. Therefore, the major characteristic of evaluation is that of judgment of merit. Thus, relating this to ODL programmes, evaluation could defined as systematic process of generating evidence on conditions of input, process and output in place before, and after the take off.

Figure 1.1: Important things to emphasis on when evaluating educational programme

Evaluation of Antecedent Conditions (Needs Assessment): This has to do with finding out the suitability of certain conditions prior to the introduction of a curriculum programme. This usually entails a thorough analysis of the situations. Such an analysis may be directed towards three main areas (Yoloye, 1978):

(i) Manpower, i.e. teachers and auxiliary staff (with reference to quality, quantity, qualification, experience, age, gender, and professional activities);

(ii) Student (with regards to intellectual ability, degree of interest in and aptitude for the course of instruction, and cognitive styles); and

(iii) Learning environment (school setting, school administration, teaching-learning materials and cultural setting).

The relevant data that will aid decision making on the various antecedent conditions are to be collected using tests, checklists, questionnaires, surveys, direct observations, etc.

Evaluation of Instructional Objectives: The work of evaluating instructional objectives may require selection of group of experts who are to be guided by a set of criteria to be used in determining what should or should not constitute desirable instructional objectives in Open Distance Learning Programme. No matter what, care must be taken to ensure that the stated instructional objectives have relationship with the desired educational goals aims:

- likely to contribute cumulatively to the attainment of these goals and aims.
- clearly stated to show behavioural and content quality characteristics.
- appropriate for students at the particular level of education and stage of mental development.
- attainable by the students at the particular level of education and stage of mental development.
- important enough to encourage further learning by student in their next class or in related subjects.
- consistent with the education or social philosophy of the school (Okpala & Onocha, 1994).

Evaluation of Learning Experience: Learning experience is defined as those curriculum content Open Distance Learning Students are exposed to. During the course of instruction, it is suggested that the students be exposed to instructions designed to make them interact with their environment in such a way that they attain the instructional objectives. It would be best to ascertain the suitability of learning experience by evaluating students' learning outcomes (i.e. after a tryout of the curriculum in few schools) that may result from the selected learning experiences. Where this is not possible an analysis of relevant judgement and opinions from general experts, with respect to the effectiveness of the learning experiences, may be suitable.

Evaluation of Contents and Materials: The contents and materials of a curriculum programme may be derived from one or one more subject disciplines e.g. the contents and materials for GES 104 Science and Mankind curriculum for all year one student DLC Ibadan could be selected from physics, chemistry and biology, Agriculture. This notwithstanding, it is suggested that in evaluating the contents and the materials of a curriculum programmes, emphasis should be placed on establishing the relevance and potential effectiveness of the selected contents and materials in achieving the instructional objectives.

Evaluation of Teaching Methods: Open Distance Learning Programme is an approach to learning that gives students flexibility and choice over what, when, where, at what pace and how they learn. Open learning is all encompassing and includes distance education, resource-

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based learning, correspondence learning, flexi-study and self-paced study. Distance education is a type of educational processes designed for teaching a diverse range of students located at different places and physically separated from the learning institution, their facilitators as well as other students. Different methods are used for instructional delivery. They include: blended learning which entails using multiple teaching and learning strategies, a range of technologies in combination with face-to-face interaction and the deployment of both physical and virtual resources. In this case, it necessary to evaluate these methods and the teachers' perfection on their use. The following criteria could be used for the evaluation of a new approach to teaching:

1. Effectiveness and economy in achieving the desired instructional objectives.
2. Practicability in actual school situation in terms of available physical facilities (teaching aids, laboratories, workshops, e.t.c.), and
3. Teacher competence in terms of teachers' perception of their own abilities to execute the new method.

Some of the possible procedures for evaluating a new teaching method include the use of external evaluators, in-house analyses to be conducted by 'inside evaluators' and curriculum developers, expert judgement and opinion, and some tryout in schools.

Evaluation of organisation Learning Experience: It is important to ascertain whether the learning experiences are being organised in such a way as to facilitate the realisation of desired instructional outcomes. Questions such as these could be asked:. Does each successive experience build

upon the proceeding one in greater depth and breadth? Is the integration of learning experiences and contents effective or are related areas of subject matter learned in a compartmentalized fashion? What sort of connected learning identified from the organisation has produced greater change in the desired direction? These questions and many others could be listed to indicate areas of principal concern to evaluation at the 'organisation of learning experience'. The effectiveness of the pattern used in organising the learning experience could also be judged against the following evaluation criteria: Continuity; Sequence and Integration. The procedures for evaluation may include interviewing the students and teachers, e.t.c. who participated in the programme, testing the students at different behavioural and content levels, and administering questionnaires on both teachers and students.

Determining the suitability of Evaluation Instruments and Procedures: In deciding the appropriateness of evaluation instruments and procedures, a major emphasis should be laid on ascertaining the validity and reliability of the results obtained using the instruments and procedures. Validity refers to the extent to which the results of an evaluation instruments or procedure serve the particular use for which they are intended while reliability refers to the consistency of evaluation results obtained using the instruments and procedures. Reliability provides the consistency which makes validity possible, and indicates the level of confidence that can be placed on the curriculum evaluation results.

Evaluation of Outcomes: The outcomes of a curriculum programme could be described as the effect of introducing

the programme on various categories of people, and possibly things (Yoloye, 1978). These categories of people usually include the student, teacher, parents and employers of labour as well as all end users of the programme outcome. Since all Open Distance Learning programmes are designed for adult students, a systematic evaluation of what the students have gained from the programme is of paramount, importance. A major question for evaluation is: To what extent has the learner grown as a result of his exposure to the curriculum programme? Such a growth is usually measured in three broad areas of learning identified by Bloom et al (1965) cognitive, affective and psychomotor. Learning outcome results of ODL students can help the programme organisers (teaching and administrative staff) to ascertain how well the objective of the curricula contents students were exposed to was achieved. An outcome for one instructional sequence may become an input variable for next sequence where one is a prerequisite for the other.

2.   The primary purpose of evaluating Open Distance Learning students' learning outcomes in a given educational programme is to provide information for decision making about the programme with respect to students' level of performance. Evaluation of Open Distance Learning students' learning outcomes could therefore be seen as a systematic collection of evidence to determine whether in fact certain desired/expected changes are taking place in the ODLstudents. It could also be seen as a process of acquiring and processing evidence needed to improve their teaching-learning activities. Information generated from such study could help the programme developer/organizer estimate the amount or degree of changes that have occurred in the individual student or group.

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Feedback from the information generated should be provided in time to be useful for decision-making. The process of gathering the needed data should be structured in such a way as to generate a greater variety of evidence(s) beyond the usual paper and pencil examination. For instance, data collection mechanism such as the use of questionnaires, interviews, and observational technique, among others could be used. Personal information generated on the learners (e.g. age, gender, learners' ability level, educational qualification, among others) could be disentangled by evaluators and used to determine where each learner falls and what must have influenced such characteristics.

Things expected of the facilitator to do prior to the evaluation activities
- Indicate the number of testing schedules
- Date for each test
- Topics and domains to be tested

Others include:
- What should each test encompass;.
- Who should be involved in the process (internal/external);
- When should it be applied (formative / summative)

CONCERNS OF EVALUATION
- The primary purpose of evaluating Open Distance Learning educational / Training programme is to provide information for decision making about ODL programme;
- The process of generating such information for evaluation should meet the criteria of reliability, validity,

practicability and ethical issues;
- ◆ Results generated from such study should be useful for programme improvement decisions (not just in the area of termination and continuation);
- ◆ Feedback on the data generated should be provided on time to be useful for such decisions.

Facilitator/Service Provider's Role
- ◆ Creating futile programmes for helpless candidates;
- ◆ Construction of formative tests which should guide students' learning and facilitators instructional delivery activities. Formative evaluation data may not to be sufficient enough to pass judgement on the desirability or effect of the programme thus another person entirely should be invited to conduct the summative evaluation to avoid bias;
- ◆ The Open Distance Learning facilitators should serve as a reporter with respect to keeping accurate records of all scores generated by every ODL student.