

Emmergent Issues
in
Primary Education
Studies

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DEDICATON

This book is dedicated to the Almighty God, The Rock, whose work is perfect and all His ways are judgment, a God of truth and without iniquity, just and right is He;

The staff members of PES Department, School of Education and College at Large And All PES Students in Nigeria Colleges of Education.

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Chapter 9

MODERN MEASUREMENT AND EVALUATION TECHNIQUES IN THE PRIMARY SCHOOL SETTING

BY

Adams O. U. Onuka, Ph. D.

PREAMBLE:

Evaluation is an exercise that every person does every blessed day of the entire of his/her life that takes decision. Hardly will any reasonable and sane person buy anything without evaluating some factors that should determine whether or not if the thing is worth buying in a given context or circumstance at that point in time. It is pertinent to note that evaluation is a process that is made of three stages of measurement, assessment and evaluation. Thus, when an evaluation practitioner talks about evaluation, it is taken for granted that he means that measurement and assessment are subsumed in what he is talking about. Therefore, it is true to say that without measurement and assessment. Thus these two are a means to achieving evaluation. It is necessary to make this clarification in order to make it crystal clear that measurement, assessment and evaluation are not time different things but different stage steps of one process.

MEASUREMENT, ASSESSMENT AND EVALUATION

Falayajo (2004) states that measurement, assessment and evaluation are three stages of the same process. He defines measurement as: 'the simple procedure of assigning number to some attributes or objects according to some (predetermined) rules'- parenthesis mine. It is indeed a unidimensional operation. To him, assessment involves the process of collecting information about objects using different procedures (including measurement) in order to assist in decision-making while evaluation uses the results from assessment to pass one type of judgment or another. Obemeata (2005) sees evaluation and measurement as interrelating, in which case, they

cannot be discussed in isolation of each other. He defines evaluation as it relates to pupil/student (educational evaluation) as: 'the process of making judgement of the quality of the education system or of its unit'. He viewed measurement as: 'determining the amount of certain characteristic possessed by an individual or an object'. He further avers that there are three main steps involved in evaluation as follows:

Stating the objectives of the education system or its unit in a form in which their achievement can be measured.

Obtaining the evidence empirically or otherwise on the basis of which judgement can be made.

Using evidence to make a final judgement.

Falayajo agrees with the notion that evaluation subsumes measurement and assessment. Ajala (2005) states that evaluation of student learning was promoted by the educational accountability movement as one of the most potent facets of the systems approach to instruction. Onuka and Oludipe (2004 and 2006) posit that evaluation is a means for promoting learning and achieving learning objectives, through feedback mechanism.

Onasanya (2005) contends as follows: measurement is the process of assigning numbers to attributes or characteristics of a person, an object, or an event according to explicit rules or formulations. Assessment refers to the process of investigating the status of an individual or group especially with reference to expected outcomes. And for him, evaluation has no single acceptable definition, until it is defined operationally. He, however, agrees with Alkin that evaluation is: 'the process of ascertaining the decisions to be made, selecting related information, and collecting and analyzing information in order to report summary data useful to decision makers in selecting among alternatives'. This definition clearly shows that evaluation in fact subsumes the two other components in the process of evaluation. Falaye (2005) asserts that measurement and assessment precede evaluation. We can, therefore, infer that these are means to evaluation and not an end in themselves.

Thorndike (1997) observes that measurement procedures only provide information for decision making. He states that measurement of whatever nature involves three steps as follows:

Identifying and defining the quality or the attribute that is to be measured.

Determining the set of operations by which the attribute may be isolated and displayed for observation, and

Establishing a set of procedures or definitions into quantitative statements of degree or amount.

However, this to make the ensuing value judgment that comes out of the evidence provided by measurement and assessment. For Ugodulunwa and Ugwuanyi (2003) measurement is the quantification of behaviour of the learner after a testing process has been completed. To them, testing entails presenting a set of questions or tasks to testees to respond to, while assessment is viewed by them as determining of value and worth of a thing. They aver that evaluation is an attempt to identify and explain the effects and effectiveness of a program or process or thing.

PURPOSE

As in other fields, evaluation has a purpose, which is multifarious. This includes educational accountability, feedback and improvement (Onuka, 2001 and 2006). It also includes determining pupil achievement and thus learning outcomes, determining the problems pupil encountering in the learning process and proffer possible solutions to these identified problems. Thus, in this discourse the techniques involved the evaluation process. It equally determines teaching effectiveness (Falaye, 2005).

TYPES OF EVALUATION

There are two main types of evaluation namely: **formative and summative evaluation**. **Formative evaluation** is an evaluation undertaken during the developmental stage of a programme or during teaching and learning process e.g in the course of a term or session. According to Obemeata (2005), it is for the purpose of guiding and assisting a programme or learning to achieve its objective. Onasanya (2005) concurs as he says it guides and aids development and implementation of a programme. It also provides feedback on individual or group.

Summative evaluation is seen as that evaluation that takes place at the end of a programme. Its purpose includes providing evidence to judge the success or otherwise, and to recommend the appropriate action concerning, whether to continue with it or modify it or terminate. Onasanya states it could be used to certify or select pupils for placement at higher level of education.

TECHNIQUES/TOOLS OF EVALUATION AND THEIR USES

Techniques/tools for evaluation are numerous and they include the following among others:

Tests and these are also of various shapes and take variety of forms: **teacher-made-** this is designed by the teacher based on what was taught to examine how much of what is taught has been achieved, *Achievement Test: designed to determine the level of achievement after a course of study - this could be teacher made or standardized test constructed by a researcher or an examining body.*

Aptitude test or prognostic test is primarily designed to predict success in future learning,

Intelligent test designed to assess the level of general cognitive functioning, continuous assessment in the cognitive domain. It is usually a standardized test. Others according to Erinoshio (2005) include:

background knowledge probe- designed to collect specific and useful feedback on the pupils' prior learning or entry behaviour, **one-minute paper and half-sheet response** meant to provide quick and simple way to collect written feedback on pupil learning - answers questions as the most important thing learnt and the most important one unanswered, one-sentence summary -which challenges the pupil to answer questions like 'who, what, whom, when, where, how and why? About a topic and synthesise into a simple comprehensive sentence. Others yet are: **what's the principle-**focuses on problem-solving-provides pupil with problems to which they are to find the principles.

Categorizing grid: This is useful to sort to information into appropriate categories. Class/home practice is another form of evaluation- it actively involves the pupil in the learning process.

Situational tests: are designed to assess an individual's personality by putting the testee in a fairly complex and a demanding situation. Then you carefully observe the testee's performance, record, assess it on predetermined criteria.

We also have **projective test:** is a technique that provides a useful of evaluating socio-personal adjustment. It is diagnostic and constructed to discover areas of emotional disturbance. Some other techniques are:

Questionnaires, which are often designed as printed serious questions to the respondents are required to provide answers from among the options provide by the designer. It is usually administered on a large sample and in the school setting on the entire population so as to get the comprehensive information on every body or to enable generalization.

Rating Scales: They are made up of a set of characteristics or qualities to be judged by the rater and some kind of scale for indicating the degree to which each attribute is present. Often options of four or five scales are given at the end of each attribute being measured. For instance, how much do you like mathematics? a) very much, b) much c) I do not know d) little and e) very little. However, it has been argued that I do not know and such neutral options hardly represent any meaningful things and as such should be avoided.

Checklists: They a list of objects or attributes to respondents are to indicate their presence or otherwise. It can be used in evaluating performance skills which are divided into series of clearly defined specific actions. They give the list of the characteristics which the finished product should possess.

Socio-metric techniques: sociometry is concerned with the social interactions among any group of people. It is a measure of inter-personal relationships and of social adjustment of individuals to groups. Here pupils are requested to choose their friends and preferences among their peers. Those least chosen may be having some social problems which should looked and counselling services provided promptly.

Observational techniques: there are habits, behaviour attitudes beliefs that are observable and as such could be observed. No test for instance that can measure anxiety or personality traits, thus the

pupils, in such situation, should be assessed through observational techniques which include: **manipulated situation observation technique** whereby a pupil is deliberately put in a situation in which he is most likely to exhibit behaviour under consideration e.g aggression; anecdotal record is another simple technique which can be used to observe affective behaviour, here the teacher records the anecdotal events of a pupil's life. It is done without premeditation. He observes the child and records the behavior as they occur. There is also **the systematic observation technique** whereby instrument containing certain observable behaviours are entered in a structured manner and they recorded in the instrument as occur. This can be used to observe the pattern of classroom interaction.

Inventory: this instrument is a questionnaire-like checklist in which the pupil is required to rank items in a list of things or statements as s/he thinks appropriate.

CHALLENGES:

The challenges faced in using evaluation techniques in a primary setting may include lack of funds to execute the programme which involves some capital outlay in terms of materials such papers, computers other writing materials, it also involves the use of extra time. Another challenge that may confront the teacher may be lack of expertise. Thus s/he needs some training which also involves money, these challenges could be overcome by making money and time available for training and necessary equipment.

CONCLUSION

The paper has been able to distinguish as well as synthesized the concepts of measurement, assessment and evaluation, bringing the distinctions and the linkages and concluding un equivocally that they are all stages of the evaluation process. We note that measure and assessment are necessary steps that must be taken to achieve evaluation

We discovered also that there are two main types of evaluation: formative or developmental and summative/judgmental evaluation. Any other sub-type is a variant of one of the two. There are numerous

techniques of evaluation; prominent among them is test of various forms for cognitive evaluation and sometimes for the psychomotor, questionnaire for the affective, checklists, inventory, sociometric technique and observational techniques of the varied types. It is noteworthy that the technique we employ would depend on what we want to measure/evaluate.

There are challenges that confront the use of evaluation in the primary setting such as finance, equipment, lack of expertise, extra time needed. These can be overcome with adequate teacher preparation which includes courses on evaluation techniques, funding and purchase of equipment

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