

1. Introduction

1.1 Definition of Basic Terms in Measurement and Evaluation

The terms *test*, *measurement*, *evaluation*, and *assessment* are occasionally used interchangeably, but most users make distinctions among them. Such distinctions are emphasized here below.

A. Assessment: It is often used to indicate the use of both formal and informal data-gathering procedures and the combining of the data in a global fashion to reach an overall judgment. Assessment may take any of a variety of procedures used to obtain information about student performance. It is a general term which might include any forms of observation, ratings of performances or projects, paper-and-pencil tests, etc. Assessment answers the question: “How well does the individual perform”?

B. Tests: Are particular types of assessment tools that typically consist of a set of questions administered during a fixed period of time under reasonably comparable conditions for all students. Because a test is a form of assessment, tests also answer the question: “How well does the individual perform— either in comparison with others or in comparison with a domain of performance tasks?” Tests are usually considered as the narrowest of the four terms; it connotes the presentation of a standard set of questions to be answered. As a result of a person's answers to such a series of questions, we obtain a measure of a characteristic of that person.

C. Measurement: It indicates to the process of obtaining numerical description of the degree to which an individual possesses a particular characteristic. It is the assigning of numbers to the results of a test or other types of assessment according to a specific rule (e.g. counting correct answers or awarding points for particular aspects of an essay). Measurement requires the use of numbers but does not require that value judgments be made about the numbers obtained from the process.

D. Evaluation: Is perhaps the most complex and least understood of the terms. Inherent in the idea of evaluation is "value." When we evaluate, what we are doing is engaging in some process designed to provide information that will help us make a judgment about a given situation. The purpose of evaluation is to make a judgment about the quality or worth of something. In such cases, the goal is not simply to describe what the students can do. Instead, we seek answers to such

questions as: How good is the level of achievement? How good is the performance? Have they learned enough? Such questions of values hence require the exercise of judgment.

E. Identification

Prevention and early identification-early intervention reduce the prevalence and severity of significant achievement and behavior problems. Early intervention programs have been designed to provide services, resources, and support to meet the unique needs of children with delays or disabilities. The goal is to foster the children's development and ultimately reduce the costs to society, through minimizing the need for special education.

Infants and toddlers are identified for early childhood interventions (ECI) services through a comprehensive child find system. Public awareness programs are implemented to disseminate information on early intervention services to parents of premature infants, children with disabilities or delays, or children who have risk factors associated with learning or developmental complications.

Parents are contacted through primary referral sources, such as local hospitals and physicians. Infants and toddlers eligible for early childhood interventions (ECI) services must be under 3 years of age and have a disability or a developmental delay in one of the following areas: physical development, cognitive development, adaptive development, social/emotional development, or communication development. At the state's discretion, early intervention services may also be provided to children who are identified as at-risk. This is because risk factors, such as *(a) prenatal conditions* (e.g., low birth weight or preterm birth) and *(b) family and environmental conditions* (e.g., family history of spoken or written language problems, low maternal education, limited language exposure, poverty, and exposure to environmental toxins), have been associated with later learning difficulties and school failure. For example, in a longitudinal study of 152 families, Gutman (2003) found that students who were exposed to a greater number of risks as infants and toddlers experienced lower grades and greater number of absences by 13 years of age. The risk factors included *(a) parental occupation* identified as laborers, semiskilled, or unemployed; *(b) low maternal education*; *(c) families with four or more children living at home*; *(d) stressful or negative life events*; *(e) high maternal anxiety*; *(f) poor maternal mental health*; and *(g) negative mother-child interaction*.

1.2 The Role of Assessment and Evaluation in Education

Assessment of student learning requires the use of techniques for measuring student achievement. Assessment is more than a collection of techniques, however. It is a systematic process that plays a significant role in effective teaching. It begins with the identification of learning goals, monitoring the progress students make towards these goals, and ends with the judgment concerning the extent to which these goals have been attained. Some of the goals of assessment and evaluation hence are described here below.

A. Identifying Instructional Goals

The first step in the teaching and learning process is determining the learning outcomes to be expected from classroom instruction. How should students think and act when they complete the learning experience? What knowledge and understanding should the students' possess? What skills should they be able to display? What interests and attitudes should they have developed? All such questions hence are to be addressed by doing assessments.

B. Pre-Assessing the Learners' Needs

When the instructional goals have been clearly specified, it is usually desirable to make some assessment of the learners' needs in relation to the learning outcomes to be achieved. Do the students' possess the abilities and skills needed to proceed with the instruction? Have the students already developed the skills and understanding intended? Assessing students' knowledge and skills at the beginning of instruction enables us to answer such questions. This information is useful in planning work for students who lack the prerequisite skills and in modifying our instructional plans to fit the needs of learners.

C. Promoting the Instructional Process

The main purpose of classroom instruction is to help students achieve a set of intended learning goals. These goals should typically include desired changes in the intellectual, emotional and physical spheres. When classroom instruction is viewed in this light, assessment becomes an integral part of the teaching-learning process. The intended learning outcomes are established by the instructional goals, the desired changes in students are brought about by the planned learning activities, and the students' learning progress is periodically assessed by tests and other assessment devices.

D. Providing Relevant Instruction

Relevant instruction takes place when course content and teaching methods are integrated into planned instructional activities designed to help students achieve the intended learning outcomes. During this instructional phase, assessment and evaluation provide a means of monitoring learning progress and diagnosing learning difficulties. Thus, periodic assessment during instruction provides a type of feedback-corrective procedure that aids in continuously adapting instruction to group and individual needs.

E. Assessing the Intended Learning Outcomes.

The final step in the instructional process is to determine the extent to which the learning objectives were achieved by the students. This is accomplished by using tests and other types of assessments that are specifically designed to measure the intended learning outcomes. Ideally, the content standards and instructional goals will clearly specify the desired changes in students, and the assessment instruments will provide a relevant measure or description of the extent to which those changes have taken place.

F. Motivating Students for Studying

The other major role of classroom assessment and evaluation is to motivate and direct student learning. The experience of almost all students and teachers support the position that: 1) students do tend to study harder when they expect an exam than when they do not, and 2) they emphasize in their studying those things on which they expected to be tested. If students know in advance (as they know) that they will be tested, if they know what the test will require, and if the test does a good job of measuring the achievement of essential course objectives, then its motivating and guiding influence will be most wholesome.

G. Using Results

Student assessment is often regarded as being essential for the benefit of teachers and administrators. This attitude overlooks the direct contribution that assessment can make to students. Properly used assessment procedures can contribute directly to improved student learning by: a) clarifying the nature of the intended learning outcomes, b) providing short-term goals to work toward, c) providing feedback concerning learning progress, d) providing information for overcoming learning difficulties and for selecting future learning experiences, and e) identifying

the next instructional goal. Also these purposes are probably best served by the periodic assessment during instruction; the final assessment of intended outcomes also should contribute to these needs.

Information from carefully developed test and other types of assessment can also be used to improve instruction. Such information can be used in judging: a) appropriateness and attainability of instructional goals, b) usefulness of instructional materials, and c) effectiveness of instructional methods. Thus, assessment procedures can contribute to improvements in the teaching-learning process itself and directly contribute to improved student learning.

1.3 Purposes of Assessment in Early Childhood Education



Activity: What are the reasons for assessing children's learning?

The purpose of assessment of young children is to collect information necessary to make important decisions about their **developmental and educational needs**. Assessment must always serve in ways that **enhance opportunities for optimal growth, development, and learning**.

According to Harley (2006) early childhood educators assess children's learning for many reasons, but specifically they do so in order to identify and understand:

- What each child knows and can do (including strengths and challenges, interests, attitudes and dispositions)
- Each child's attachment patterns, relationships and management of transitions
- How each child is progressing developmentally?
- Each child's physical health and emotional wellbeing
- What needs to be planned and implemented next for children to master developing skills and to extend each child's developmental and learning needs.
- Children who may require additional assessment and intervention
- How effective the curriculum and planned experiences are for a specific

child or group of children.

By now it is obvious that assessment in early childhood is a complicated and multifaceted enterprise. Recommendations from the field and the professional literature indicate that early care and education assessment should address certain purposes. *Four primary purposes for gathering information on young children are described as follow:*

- 1 Screening
- 2 Instructional
- 3 Diagnostic
- 4 Program Evaluation/Accountability

1 Screening Assessment

Screening is a process designed for the purpose of identifying **potential problems in learning or development**. Screening instruments are quickly and easily administered to identify children who **need more extensive assessment**. Screening is a vital assessment activity in almost all early childhood programs because positive developmental and academic outcomes are associated with early identification and attention to problems.

Predictors for Identifying Young Children at Risk – Child/Academic Variables

- Inability to follow directions (executive functioning)
- Poor gross motor skills (clumsy)
- Trouble interacting with peers
- Late talking
- Slow vocabulary growth
- . Easily distracted/lack of attention (executive functioning)
- Articulation difficulties
- RAN difficulty
- Poor phonemic awareness
- Lack of letter naming/math skills

2 Instructional Assessment

The most important reason for assessment in early childhood is to inform, support and monitoring early learning and development. This level of assessment yields information

- about what children know and are able to do at a given point in time,
- to guide “next steps” in learning, and
- to provide feedback on progress toward goals.

Assessment to support instruction is a continuous process that is directly linked to curriculum. Instructional assessments are aligned directly with curriculum goals which, in turn, are aligned with early childhood standards.

3 Diagnostic Assessment

Diagnostic assessment is a thorough and comprehensive assessment of early development and/or learning for the purpose of identifying **specific learning difficulties and delays, disabilities, and specific skill deficits, as well as evaluating eligibility for additional support services**. Diagnostic assessments usually are conducted by trained professionals using specific tests. When used to determine eligibility for specific support services, early intervention and special education, diagnostic assessment is a formal procedure governed by federal and state law

4 Assessment for Program Evaluation/Accountability

Assessment for program evaluation and accountability addresses program-level outcomes. While **instructional, screening, and diagnostic assessments address the development and learning of individual children, program evaluation and accountability assessments focus on the performance of groups of children**.

In addition, program evaluations routinely address variables, such as

- the quality of personnel and the physical environment,
- effectiveness of parent involvement, and

Community collaboration activities.

Accountability assessment is often required by external agencies and used by policy makers to make decisions about **funding, needed program supports, and program requirements**.

1.3 Types of Tests

Rebecca (2009) declared that many different types of tests exist and each has a different purpose and style. Among such varieties of tests, some are displayed here below.

Diagnostic Tests: These tests are used to diagnose how much you know and what you know. They can help a teacher know what needs to be reviewed or reinforced in class. They also enable the student to identify areas of weakness.

Placement Tests: These tests are used to place students in the appropriate class or level. For example, in language schools, placement tests are used to check a student's language level through grammar, vocabulary, reading comprehension, writing, and speaking questions. After establishing the student's level, the student is placed in the appropriate class to suit his/her needs.

Progress or Achievement Tests: Achievement or progress tests measure the students' improvement in relation to their syllabus. These tests only contain items which the students have been taught in class. There are two types of progress tests: short-term and long-term.

Short-term progress tests check how well students have understood or learned material covered in specific units or chapters. They enable the teacher to decide if remedial or consolidation work is required. Long-term progress tests are also called Course Tests because they check the learners' progress over the entire course. They enable the students to judge how well they have progressed. Administratively, they are often the sole basis of decisions to promote to a higher level.

Progress tests can also be structured as quizzes, rather than as tests. They can be answered by teams of students, rather than individuals. They can be formulated as presentations, assignments, or research projects. Structuring progress tests in this way takes into account the multiple intelligences and differing learning styles of the students. Yet many students still expect a "regular test" as a part of "normal learning".

Proficiency Tests: These tests check learner levels in relation to general standards. They provide a broad picture of knowledge and ability. In English language learning, examples are [TOEFL](#) and [IELTS exams](#), which are mandatory for foreign-language speakers seeking admission to English-speaking universities. In addition, [TOEIC](#) (Test of English for International Communication) checks students' knowledge of Business English, as prerequisite for employment.

Internal Tests: Internal tests are those given by the institution where the learner is taking the course. They are often given at the end of a course in the form of a final exam.

External Tests: External tests are those given by an outside body. Examples are the TOEFL, TOEIC, IELTS, SAT, and GRE. The exams themselves are the basis for admission to university, job recruitment, or promotion.

Objective Tests: Objective tests are those that have clear right or wrong answers. Multiple-choice tests fall into this group. Students have to select a pre-determined correct answer from three or four possibilities.

Subjective Tests: Subjective tests require the marker or examiner to make a subjective judgment regarding the marks deserved. Examples are essay questions and oral interviews.

Combination Tests: Many tests are a combination of objective and subjective styles. For example, on the TOEFL iBT, the reading and listening sections are objective, and the writing and speaking sections are subjective.

1.3.1 Other Groupings

According to Miller, et al. (2009), tests can also be grouped as in the following through relative dichotomies.

Informal Versus Standardized Tests: Informal tests are those constructed by classroom teachers, whereas those designed by test specialists and administered, scored and interpreted under standard conditions are called standardized tests.

Individual Versus Group Tests: Some tests are administered on a one-to-one basis using careful oral questions (E.g., individual intelligence tests), whereas others can be administered to a group of individuals.

Mastery Versus Survey Tests: Some achievement tests measure the degree of mastery of a limited set of specific learning outcomes, whereas others measure a student's general level of achievement over a broad range of outcomes. Mastery tests typically use criterion-referenced interpretations, and survey tests tend to emphasize norm-referenced interpretations. Yet, some criterion-referenced interpretations also are possible with carefully prepared survey tests.

Supply Versus Fixed-Response Tests: Some tests require examinees to supply the answer (E.g., essay test), whereas others require them to select one of two or more fixed-response options (E.g., multiple-choice test).

Speed Versus Power Tests: A speed test is designed to measure the number of items an individual can complete in a given time, whereas a power test is designed to measure level of performance under ample time conditions. Power tests usually have the items arranged in order of increasing difficulty.

Objective Versus Subjective Tests: An objective test is one on which equally competent examinees will obtain the same scores (e.g., multiple-choice test), whereas a subjective test is one in which the scores are influenced by the opinion or judgment of the person doing the scoring (e.g., essay test).

1.4 General Principles of Assessment/Evaluation

Evaluation as an integrated process for determining the nature and extent of student learning and development. This process will be most effective when the following principles are taken into consideration.

- A. *Clearly specifying what is to be assessed:*** the effectiveness of assessment depends as much on a careful description of what to assess as it does on the technical qualities of the assessment procedures used.
- B. *An assessment procedure should be selected because of its relevance to the characteristics or performance to be measured:*** Assessment procedures are frequently selected on the basis of their objectivity, accuracy, or convenience.
- C. *Comprehensive assessment requires a variety of procedures:*** No single type of instrument or procedure can assess the vast array of learning and development outcomes emphasized

in a school program. Thus, it is preferable to use a combination of tests such as multiple choice items, short answer items, projects, observational techniques, etc.

D. *Proper use of assessment procedures requires an awareness of their limitations:*

Assessment procedures range from highly developed measurement instruments (e.g. standardized achievement tests) to rather crude assessment device (e.g. observational techniques). Even the best educational and psychological measuring instruments yield results that are subject to various types of measurement error.

E. *Assessment is a means to an end not an end in itself:* The use of assessment procedures implies that some useful purpose is being served and that the user is clearly aware of this purpose. If no purpose however it will be a waste of time. Thus, assessment is best viewed as a process of obtaining information on which to base important educational decisions.