
Unit-2 □ Assessment

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2.1 Introduction:

Assessment, in general, refers to a systematic process of gathering information about an individual's level of performance in order to prepare a programme plan. Assessment can be formal and informal.

Perhaps one of the most valuable tools available to the special education teacher is assessment, the process of using tests and other formal and informal means of measurement to make educational decisions. Special educators need a wide variety of information about their students. Regular education is designed to meet the needs of average learners, while special education services are designed to meet the individual needs of students with severe school performance problems. Their instructional plans must be highly individualized, which means that their teachers must have precise information about what the students needs in instructional terms and that is where assessment comes in. Special education teachers need a working knowledge of assessment to effectively and efficiently address student needs and to provide a full range of appropriate educational services. Assessment is technically different from evaluation and measurement. Evaluation involves decision making about student performance and teachings strategies whereas, measurement is evaluation expressed in quantitative terms (Woolfolk, 2001). Assessment is needed at the beginning of the programming and sometimes during and after the programme implementation.

We have discussed the concept of assessment and also the purposes of assessment, but it is also essential to know means and modes of assessment. Precisely information comes from the methods and tools. The methods indicate how to conduct the assessment. Let us recall the example of arithmetic competency. A teacher might gather information about a student's arithmetic competency by observing classroom performance, surveying the notebooks, by asking certain questions, by assigning specific worksheets. All of these procedures indicate that assessment can be done in different ways. Let us now study the various modes of assessment.

Educational assessment helps to find out abilities of the student and plan teaching programme accordingly. To plan the educational programme we have to collect various data using various methods. There are various types and approaches of assessment like Norm referenced tests, Criterion reference tests, Curriculum bases assessment and teacher made tests so on. We need to know the assumptions and scope of each type of test otherwise we may tend to overuse or under use. and thus jeopardizing the very purpose of assessment. This unit is going to present the various types and approaches of assessment.

We have discussed the purposes for which assessment is carried out. To call a child mentally retarded, i.e., for the purpose of diagnosis, a comprehensive assessment is to be done which consists of medical assessment, psychological assessment, educational assessment, behavioural assessment and finally ecological assessment. After the diagnosis, the child is referred to an appropriate educational programme for intervention. So educator should be aware about the areas of assessment.

Documentation is a vital process in any programme. It makes the programme more system dependent than a person dependent. It helps in reviewing and evaluating a programme objectively, thus leading to quality in the programme and a scope for improvement. In the area of special education it is all the important as the children have unique needs and the programming requires multidisciplinary team involvement. Further, the services are not only provided in schools but also in varied settings. All these need to have systematic records and plans for action. In this unit we will see the importance of documentation and methods of documentation. This unit is also intended to orient you to the various aspects of result interpretation and report writing.

2.2 Objectives:

After going through this unit the reader should be able to:

- Demonstrate the understanding of meaning of assessment
- Explain the purposes of assessment

- Apply the various methods of assessment in their practical work.
- Explain the rational and relative merits and demerits of CRT & NRT
- Explain the various aspect of CRA and Teacher made test
- Understand that there is a need for carrying out different areas of assessment depending on the purpose.
- Understand that a comprehensive assessment which includes medical, psychological and educational assessment is required for diagnostic purpose.
- Understand the various tools for assessing various areas like medical, psychological and educational.
- Understand the importance of ecology for programme planning.
- Demonstrate the understanding of meaning of documentation, its important and methods of documentation.
- Know about the interpretation and its levels
- Explain the significance of report writing for different purposes
- Identify the points to be kept in mind while writing reports for educational planning
- Tell the kinds of administrative decision to be taken at the context of children with mental retardation
- Explain the meaning of inclusive education and changing trends in assessment in inclusive set up
- Discuss the adaptation of assessment in inclusive education

2.3 Concept, Meaning, Definition and Purpose of Educational Assessment

2.3.1 Definitions of Assessment

Assessment involves the systematic collection, organization and interpretation of information about an individual to decision to be made about him/her (Sundberg and Taylor, 1962).

Assessment as the use of various instruments (test, inventories, observation and so on) utilized in identifying skill levels and ascertaining progress (Logan, 1977).

Educational assessment refers to the process of gathering and analyzing information in order to make instructional, administrative and / or guidance decisions about, or for an individual (Wallace, Larsen and Elkinson, 1992).

Assessment is any of variety of procedures used to gather information about the student performance (Linn and Gronlund, 2000).

Assessment is the process of gathering information to monitor progress and make educational decisions if necessary (Overton, 2004).

There will be abundant definitions of assessment but all agree that it is a systematic process, which requires gathering of information, and it has purpose. The purpose is to make a diagnosis and programme planning. In the context of education the purpose is to make an educational management.

2.3.2 Purposes of Educational Assessment

Anyone who is involved in the assessment process should know clearly the purpose for which he is conducting the assessment. This is very important as it decides the type of assessment tools and means of gathering information for decision making.

There are many purposes of assessment. They are:

- Initial screening and identification,
- determination and evaluation of teaching programmes and strategies (pre-referral intervention),
- Determining eligibility
- determination of current performance level and educational need,
- decisions about classification and programme placement,
- Development of educational programmes (including goals, objectives and evaluation procedures).
- Evaluation of the effectiveness of the Individualized Educational Programme.
- Monitoring Student Progress

Initial screening and identification

- The students who require special attention or special educational services are initially identified through assessment procedures. The procedures involve either informal procedures such as observation or error analysis or formal procedures such as achievement or intelligence tests. In other words, assessment is used to identify the children who warrant further evaluation.
- Assessment is also used to screen children who are considered to be “high risk” for developing various problems. These children would not have yet developed deficiencies requiring special education, but they do exhibit certain behaviours that suggest problems in future. Identifying such children allows continuous monitoring of problem areas and designing of stimulation programme if required to prevent the problem.

Assessment for initial identification purpose therefore is used to identify individual who might need further detailed assessment or who might develop problems in future. Further, it identifies individuals who with some type of immediate remedial programme might be able to cope with the problem.

Evaluation of teaching programme and strategies (pre-referral)

One of the important roles of assessment is to determine appropriate programme and strategies. For this purpose, information is used in four ways.

- First, prior to the referring of a student to special education programme, it can assist regular teacher in determining what to teach and the best method to teach.
- Second, it serves as a method of evaluating the effectiveness of the particular teaching programme or strategy. Many a time a formal referral for special education can be avoided if assessment information is used in this way. That is assessment information can be used to develop and evaluate pre-referral intervention programming. For example, a student X is getting poor marks in subjects as he makes a lot of spelling mistakes. Before making a formal referral to special education services, thinking that the student may be learning disabled, the regular teacher may assess and analyze the work product (spelling errors) of the student and provide a remediation programme. If student shows progress, further referral to special education services can be avoided.

- Third, in determining appropriate programmes and strategies, assessment can provide pre-referral information to document the need for a formal referral. As explained above, if pre-referral intervention fails to remediate the spelling problem, then there is a need for referring the student for special education programmes.
- Fourth, the pre-referral intervention information can be incorporated into the individual education programme for student who are eligible for and who ultimately receive special education.

Determining Eligibility

Educational assessment is performed to establish whether a student qualifies for special education, to determine whether the student has a school performance problem related to a handicap. To receive special services, student must meet eligibility requirements established by state department of education, USA, based upon P.L. 94-142. A Student's intellectual, academic, sensory, and other abilities are analyzed to establish the severity of any disability. If the student's performance and other data meet the standards, the student is eligible for special services. In addition, the school may receive federal and state government support to help pay for the provision of services.

Assessment at this level is more in depth than that done for screening. Individual tests are given in major areas of school achievement, in social skill development, in intelligence, and in other related areas. Useful information is collected in various settings and from a variety of sources.

Determining of current performance level and educational need

The assessment of current performance level of a student in subjects or skills is essential to state the need for special education programme. This information helps the teacher or examiner:

- to identify subject(s) or skill(s) that need special assistance.
- to identify strengths and weaknesses of students.
- to select appropriate strategies and procedures.
- to identify general areas in which the student needs additional help.
- To determine possible remedial approaches for the students.

Decision about classification and programme placement

The assessment data is used for classification and placement of students with special needs in appropriate special educational programmes. Theoretically, individuals are classified to indicate similarities and relationships among their educational problems and to provide nomenclature that facilitates communication within the field (Taylor, 1993). Based on assessment information students are classified and suitable placement decisions are made. For example, a 6 year old child who is diagnosed to have mental retardation needs a placement in special education programme which provides education to children with mental retardation.

Development of Educational Programme (Individual or Group)

The most important use of assessment information is to determine the goals and objectives, and strategies to teach children who are identified to have special educational needs. As each individual child's needs are different, we have to plan educational programme that meets the needs. A systematically planned individualized educational programme is a blueprint for teachers to follow. The plan also outlines the duties of special and regular educators and support personnel

Evaluation of the effectiveness of the Individualized Educational Programme

Evaluation procedures are also specified in Individualized Educational Programme along with goals, objectives, methods and materials. Using these procedures, the teacher has to periodically monitor the progress made by the student. The monitoring of the programme gives feedback (positive or negative) to both teacher and student. Based on the type of feed back, the teacher either changes her plan or continues the same plan or select a new activity. For example, on periodic evaluation if the child shows improvement, the teacher will continue with her plan, if no improvement is shown she may have to make changes in IEP.

Monitoring Student Progress

The reason for assessment is to monitor the progress of the exceptional student during the program. Information is gathered about the immediate effects of instruction. A variety of procedures documented the level and kind of achievement of states goals and objectives. Of particular interest is any information used to make programme modification. Informal assessment procedures and a blend of assessment and leaching are particularly helpful at this level.

2.4 Methods of Assessment - Observation, Interviews and Rating Scale

Methods of Assessment

The assessment process involves collection of data through various modes. This is essential as the assessor or teacher aims at collecting information in all the areas of development of a child, which helps the teacher/assessor in making appropriate decisions. The assessment information can be collected from primary sources and secondary sources. Primary sources are those which give us direct information. The information given by the student, the teacher's observation are the primary sources. Gathering information from any sources other than observing and interviewing the individual is secondary sources, e.g. parents, teachers, family members, case files, test reports etc. Primary sources are more reliable, as they provide direct immediate information. Secondary sources augment the information gathered from the primary sources. Whether both are required it depends on the situation. Therefore, they are not mutually exclusive but complimentary to each other. Common methods of assessment are as given below:

- Observation
- Interview
- Rating Scale
- Testing
- Experimentation
- Clinical Investigations
- Case Study

2.4.1 Observation

Observation, as a fundamental technique of data collection, refers to watching and listening to the behavior of other persons over time without manipulating and controlling it and record findings in ways that allow some degree of analytical interpretation and discussion. Thus, observation includes broadly selecting, recording and encoding behavior for empirical aims of description.

(a) Purpose of observation

Mehrens and Lehman (1984) suggest the following advantages:

- 1) Frequent observation of a student work can provide a continuous check on progress and can detect errors as they arise and take corrective action quickly
- 2) Observational techniques are not so time consuming or threatening for the student as are achievement tests and
- 3) Observational data provide teachers with valuable supplemental information much of which could not be obtained in any other manner.
4. One major purpose of observation is to capture and study human behavior as it actually happens.
5. Another purpose of observation is to provide a graphic description of real life that cannot be acquired in other ways.
6. Another purpose of observation is exploration. When the investigator observes human behavior in a real life setting, he gets a good chance to explore those variables which were important but overlooked.

(b) Types of observation

On the basis of the ability of observational data to generate useful and researchable information,

1. Systematic observation:

Systematic observation is one which is done according to some explicit procedures as well as in accordance with the logic of scientific inference.

2. Unsystematic observation:

Unsystematic observation is a type of causal observation made by the investigator without specifying any explicit objective inference.

On the basis of role played by the investigator:

1. participant observation:

As its name implies, in participant observation the investigator actively participates in the activities of the group to be observed. Here the investigator already be the member of a group or organization and decide to observe it under one or more situations.

2. Non-participant observation:

Non-participant observation is the observation in which the investigator observes the behavior of the other persons in a natural setting but does not remain a

participant in the activities being observed. Non-participant observation is usually structured and therefore the observer preplans the likely nature of the natural setting.

2.4.2 Interview:

Information is also gathered regarding the student's social skills, and the management of student in various environments and situations through interviewing parents, family members and others and the student himself. The procedure for interview is different from that for the questionnaire , but both have the same aim, and it is to obtain data regarding the respondents with minimum bias and maximum efficiency. Interview is a face to face situation or over telephone between the interviewer and the respondent, which intends to elicit some desired information from the latter. Thus an interview is a social process involving at least two persons, the interviewer and the respondent.

2.4.2.1 Types of Interview

There are 2 types of interview , namely, formal interview and informal interview.

A formal interview may be defined as one in which already prepared questions are asked in a set order by the interviewer and answers are recorded in a standardized form. It is also known as structured or patterned interview.

An informal interview is one where there are no pre-determined questions nor is there any pre set or of the questions and it is left to the interviewer to ask some questions in a way he likes regarding a number of key points around which the interview has to be built up. As most things depends upon the interviewer, the situation remains unstructured and therefore such an interview is also known as an unstructured interview.

2.4.2.2 Advantages of Interview

1. An interview allows greater flexibility in the process of questioning.
2. It facilitates the investigator in obtaining the desired information readily and quickly.
3. It facilitates the investigator in being sure that interviewees are themselves interpreted and answered the questions. This increases the validity of the conclusion arrived.

2.4.2.3 Disadvantages of Interview

1. Validity and dependability of verbal responses:

In an interview, the interviewees verbally answer the questions asked by the interviewers. Social scientists have grave doubts whether a person actually behaves the way he processes to behave.

2. Time:

The interview takes much time in its completion because each respondent or interviewee is interviewed individually and the records of the verbal interaction of each respondent is kept individually.

3. Recording information:

How to record information being given by the interviewee is also a problem in interviewing. No foolproof system of recording has yet been worked out to every body's satisfaction.

2.4.3 Rating Scale

In observation or in other techniques of data collection, as well the researcher needs to assess the attributes of individuals or objects. Rating scale is helpful tool in this regard and is much used. Barr, David and Johnson have defined rating scale as a "term applied to an expression of opinion or judgment regarding some situation, object or character". According to Lokesh Koul, it can be defined as a "Scale with a set of points which describe varying degrees of the dimension of an attribute being observed".

Ratings can be done across a scale that may be 3 point, 5point, 7point or more. Experienced researchers opined that too narrow a range may fail to reflect inter-individual differences whereas rating across too wide a range may be complicated. That is why most researchers construct their scale in 5 point or 7point continuum.

2.4.3.1 Types of Rating Scale

A Rating Scale can be categorized into several types depending on the mode of rating. Guildford has classified it according to the following categories:

- Numerical Scale
- Graphical Scale

- Standard Scale
- Rating by cumulative points
- Forced choice rating

Numerical Scale:

Numerical Scale is one in which rating is done according to a set of numerates or a set of descriptors. In the later case the rater need not use numerals in rating. The researcher assigns the appropriate numbers afterwards. In that case no number is presented to the rater.

Example :

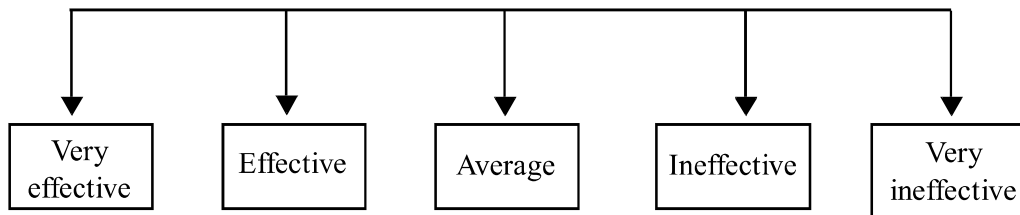
Response Category	Assigned Number
Strongly Disagree	1
Disagree	2
Indifferent	3
Agree	4
Strongly agree	5

It is advisable to avoid 0 or negative numerals (-1, -2 etc.) for case of scoring and for avoiding confusion in the rate.

Graphic Rating Scale:

In a graphic rating scale, various cues were presented to the rater graphically along a line or line segments placed either vertically or horizontally. The cues correspond to different degrees along a continuum. The rater ticks at the place which he thinks appropriate. The rater need not deal with numbers which makes the task easy for some raters. The appeal of visual presentation is better as well as the example:

How effective was the presentation of the teaching learning material in the class:



Standard Scale:

Standard scale is one in which the rater is presented with some standards with pre - established scale values. These standards usually consist of objects of the same kind. As an example the Man-to -Man Scale and Portrait Matching, which are based upon the principles of the standard scale.

Rating by Cumulated Points

Rating scales based upon cumulated or summated points are the most common. Here the person's total score is the sum of individual ratings or points assigned to all items of the scale, Such points may be weighted or un-weighted.

Forced Choice Rating Scale

In the forced choice rating scale the rater is given a set of attributes in terms of verbal statements for a single item and he decides which one or ones represent the individual being rated most appropriately and accurately. The items of the force choice scale may have several alternatives -two, three, four or five.

2.4.3.2 Advantages

1. Rating Scales have a much wider field of application like teacher ratings, personality ratings, classroom transactional analysis etc.
2. It is quick, interesting and easy to apply.

2.4.3.3 Limitations

1. Error of Central Tendency:

It is the general tendency of the raters to avoid the marginal terms and to rate near the average.

2. Error of leniency:

Most of the raters rate inappropriately for a person whom he likes and vice-versa.

3. Halo effect:

It is almost a universal tendency to rate the specific trait of a person in terms of the general impression about him.

4. Reliability and validity of rating scale is low.

2.4.4 Testing

Testing the child and knowing the ability of a child yourself is always recommended as it provides first hand information. For example, instead of asking a parent whether her child can read and write words, or numerals, you test the child yourself using appropriate materials to check. If we depend on parents for information, we may miss out on identifying specific problems/content which in turn hinders further learning. To explain further, the parent may say that her son is able to read and write numerals upto 10. When you ask the boy to read the numerals by pointing not sequentially, he may read incorrectly, but, he could say orally 1-10 in sequence. If we had taken the parents information on face value, we would have selected the content for teaching numerals from 11 to 15 or 20 as an objective, which is inappropriate as per the child's ability. On the other hand, what is required is that, the boy should be taught to read the numerals independently when presented not sequentially upto 10. Hence, it is necessary always to test the child directly by the teacher/assessor to know the current performance level of the child. However, there may be some activities, for which the teacher may not be able to test the child directly (eg. Taking bath, behaviour of a child during social functions in the family, in the community, interaction with friends and neighbours) and has to collect information from family members. While selecting a test it is important to see whether it is valid for the purpose it is being used, reliable, objective, simple, cost-effective and ecologically valid or not. Lastly but most importantly, the test should be compatible to the child's abilities.

2.4.5 Experimentation

Sometimes, we may not get information either from observation, interview or testing. For example to understand the efficacy of social rewards and material rewards, the teacher may observe the student's performance under two conditions- one, involving contingent presentation of social rewards and the other with material reward. Finally the teacher may draw necessary conclusions depending on the student's performance. However, experiments are not as simple as exemplified here. They require systematic

planning and stringent analysis of the information. If properly planned, experiments provide information on cause - and -effect relationships.

2.4.6 Clinical investigation

This method generally refers to medical investigation. Therefore, it has got less relevance in special education. Examples of this are CT scan, EEC, MRI, Thyroid Profile, Chromosomal Analysis, Serum Estimations, Hearing and Vision Tests etc. However, the data provided by these investigations may have indirect bearing on certain classroom activities. Report on vision will certainly help teachers making decisions on the seating arrangement, colour and presentation of the teaching- learning material: illumination of the class. Similarly, student's EEG indicating epilepsy will help the vocational instructor protect the child from accidents in work area.

2.4.7 Case Study

Case Study utilizes all or some of the above methods to record the significant events and put them in a chronological order. It is the method of behaviour investigation in which we try to study the behaviour of an individual in all the essential aspects by analyzing the past record,, present position and future possibilities regarding his felt problem or otherwise guidance functions. The data arranged so will give meaningful information about the causality of specific conditions and problems with reference to the individual. The preparation of a case study is not the work of a single individual but the combined venture of social worker, teacher, parents, medical professional, psychologist and others professional as required.

2.5 Types and Approaches of Assessment-NRT, CRT, CBA & Teacher Made Test

2.5.1 Types and Approaches of Assessment

Assessment has assumed lot of importance in key areas of life, as they have the potential to provide comprehensive and systematic information about the individual along a given dimension of behavior. Assessment is done for various purposes including estimation of intelligence, profiling aptitude, behavior and specific skills and so on. Following are the types of assessment.

- Norm Reference Tests (NRT)
- Criterion Reference Tests (CRT)
- Curriculum Based Assessment (CBA)
- Teachers' Made Tests (TMT)

2.5.1.1 Norm Referenced Tests (NRT)

Norm Referenced Assessment or Norm Referenced Testing (NRT) is the more traditional approach to assessment. These tests and measurement procedures involve test materials that are standardized on a sample population and are used to identify the test takers ability relative to others. It is also known as formal assessment.

Norm referenced assessment is defined as a procedure for collecting data using a device that has been standardized on a large sample population for a specific purpose. Every standardized assessment instrument will have certain directions that must be followed. These direction specify the procedure for administering the test and ways to analyze and interpret the results and reporting them. Examples of the more commonly known formal assessment devices are the Wechsler Intelligence Scales for children Revised (WISC-R), The Illinois *Test* of Psycholinguistic Ability (ITPA), The Stanford-Binet Intelligence Test and the Peabody Picture Vocabulary Test — Revised (PPVT-R) and Peabody Individual Achievement Test (PIAT).

(a) Advantages of norm-referenced assessment

Norm referenced tests are widely used in special and remedial education for many reasons.

- The decision of categorizing the children as exceptional or special is mainly based on the test results of NRTs.
- It is easy to communicate test results to parents and others unfamiliar with tests.
- Norm-referenced tests have received the most attention in terms of technical data and research. They are specifically useful in problem identification and screening.
- To gel a reliable rank ordering of the pupils with respect to the achievement we arc measuring.
- To identify the pupils who have mastered the essentials of the course more than the others.

- To select the best of the applicants for a particular programme.
- To find out how effective a programme is in comparison to other possible programmes.

(b) Disadvantages of criterion referenced assessment

The use of norm referenced tests data for the purpose of educational programming is questioned in many instances for the following reasons.

- Information obtained from norm-referenced testing is too general to be useful in everyday classroom teaching. Many educators disregard the prognosis and interpretative types of data provided by standardized tests because the information is often not directly applicable to developing daily teaching activities or interventions. What does knowing a child's WISC-R score or grade equivalent in reading specifically tell a teacher about what and how to teach? For instance, what is important is to know whether the child needs to learn initial consonants or is he having difficulty with comprehension.
- NRTs tend to promote and reinforce the belief that the focus of the problem is within the child. It is because the primary purpose of NRTs is to compare one student with another. However, although a child may differ from the norm, the real problem may not be within the child but in the teaching, placement or curriculum. Educators must begin to assess teacher behaviours, curriculum content, sequencing and other variables not measured by norm referenced tests.
- It is a mechanical process
- It cannot help assessing the other required aspect as it failed during assessment.
- It failed to collect information in totality as individual may not respond in good.
- There is a chance of exaggerated or sub average information.

2.5.1.2 Criterion-referenced assessment (CRTs)

Criterion-referenced assessment is concerned with whether a child is able to perform a skill as per the criteria set, or not. In contrast to norm referenced assessment, which compares one person's performance to others, criterion referenced assessment compares the performance of an individual to the pre-established criteria. In criterion-

referenced test, the skills within a subject are hierarchically arranged so that those that must be learned first are tested first.

Glaser introduced the term criterion reference test (CRT) and defined it is a measure which assess student achievement in terms of a criterion standard thus provide information as to the degree of competence attained by a particular student which is independent of reference to the performance of others (Glaser, 1963), In maths, for example addition skills would be evaluated (and taught) before multiplication skills. These tests are usually criterion referenced because a student must achieve competence at one level before being taught at a higher level.

(a) Advantages of criterion referenced assessment

The criterion-referenced test results are useful :

- To identify specific skills that need intervention.
- To determine the next most logical skill to teach as the implications for teaching are more direct with criterion referenced tests.
- To conduct formative evaluation, that is, the performance of the student is recorded regularly or daily when the skills are being taught.
- It permits direct interpretation of progress in terms of specified behavioural objectives.
- It facilitates individualized instruction
- It enables the teacher to check on the student's progress at regular intervals.
- It eliminates pressures on the teacher to “ teach to the test.”
- It enables teachers to compile a comprehensive record of each child's development.
- To identify the master learners and non- master learners of a class.

(b) Disadvantages of criterion-referenced assessment

- CRT tells only whether a learner has reached proficiency in a task area but does not show how good or poor is the learner's level of ability.
- Task included in the criterion referenced test may be highly influenced by a given teachers interest or biases, leading to general validity problem.

- It is important for only a small fraction of important educational achievements. On the contrary promotion and assessment of various skills is a vary important function of the school and it requires norm referenced testing.
- CRTs are difficult to obtain as they require detailed specification of objectives or out comes in behavioural terms.

2.5.1.3 Curriculum-Based Assessment (CBA)

The concept of curriculum based assessment is not new and has been employed for a number of years. CBA has been developed as a means to cope with low-achievers and children with special needs in regular schools. Further, it fits into the non-categorical model that is assessment is focused on testing curriculum-based skills and not on testing for labeling purpose.

The CBA aims to identify children’s educational needs and the most appropriate forms of provision to meet those needs. Sality and Bell (1987) describes educational needs as “behaviours which a person lacks which are necessary in order to function effectively and independently both in the present and in the future”.

The starting point for conducting CBA is the child’s classroom. It is the suitability of this environment and the child’s interaction with it that is assessed and not the child.

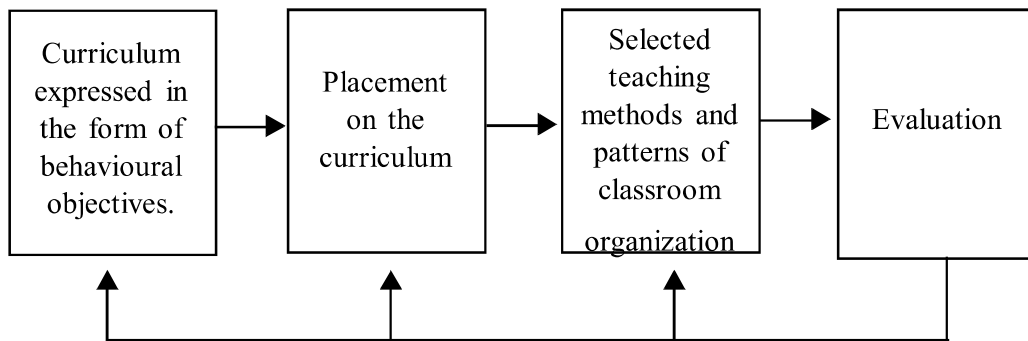
(a) Definition

CBA has been defined by Blankenship and Lilly (1981) (quoted in Sality and Bell. 1987; pg.35) as the practice of obtaining direct and frequent measures of a student’s performance on a series of sequentially arranged objectives derived from the curriculum used in the classroom. It helps in finding out the current level of a student in terms of the expected curricular outcomes of the school. In other words, assessment instrument is based on the contents of the student curriculum. Some types of CBA are informal, while others are more formal and standardized.

(b) Procedure followed in developing CBA

- The first stage in the process requires that the curriculum be defined as series of tasks which are sequenced and expressed in the form of behavioural objectives.

- Placement in the curriculum helps to identify which skills have been learned and those which need to be taught in the future. It pinpoints exactly where a child is on the curriculum.
- Selection of suitable teaching methods, materials and patterns of classroom organization for teaching.
- Evaluating children's progress - relates to the selection of teaching methods, patterns of classroom organization and choice of curriculum.
- Curriculum Based Assessment can therefore, be seen as a procedure which sets up situations where links are established between various teaching approaches and pupil progress.



(Source: Sality and Bell (1987) pg.36)

(c) Relationship between CRT and CBA

Curriculum based measures are a kind of CRTs but they differ from the core CRTs by having direct link with the curriculum taught in the classroom. In other words, the items that constitute the CRTs are taken directly from the curriculum. For example, both the Madras Developmental Programme System (MDPS) and the Grade Level Assessment Device (GLAD) are CRTs but only the latter is a curriculum based measure, as it provides a direct link to the curriculum taught at a specific grade.

2.5.1.4 Teachers' Made Tests (TMT)

While formal intelligence and achievement tests can be useful for gaining extra finding for students with diverse abilities, and in some instances for assisting with programming, they often do not help teachers discover what a child already knows and what a child needs to learn in relation to the curriculum. In order to successfully program for any student, teacher must first know the 'starting point' from which they can teach. The best way for teachers to discover what their students know and can do is through teacher-based assessment/tests. There are some commercially produced assessments available for teachers to use; however, the most effective assessments for the classroom are often those developed by individual teachers themselves. The basic philosophy of the teacher made tests is that the teacher's decisions are important in deciding the criteria. Defined this way, all the informal measures could be teacher made CRTs.

Teacher-made tests are written or oral assessments that are not commercially produced or standardized. In other words, a test a teacher designs specifically for his students. Teacher-made tests can consist of a variety of formats, including matching items, fill-in-the-blank items, true-false questions, or essays.

(a) Advantages of TMTs

- Provide teachers with the means to gather evidence about what their students know and can do.
- Help instructors identify students' strengths and weaknesses. -Keep tabs on student learning and progress.
- Help teachers plan and conduct future instruction.
- Motivate and shape learning and instruction.
- Guide students toward improving their own performance.
- Gauge whether students are mastering state level educational standards.
- Determine if students are prepared for the high-stakes tests.

(b) Limitation of TMTs

- They are often ambiguous and unclear
- They are either too short or too lengthy
- They do not cover the entire content
- They are usually hurriedly conducted

Inclusive classrooms are those which primarily compare a child's progress with his/ her own past performance in a variety of different areas across the curriculum. In that case these are the most helpful types of assessments for teachers. A combination of curriculum based assessment and intelligence assessment can be helpful in giving teaching and learning some appropriate direction.

2.6 Areas of Assessment - Medical, Psychological, Educational, Behavioural & Ecological

2.6.1 Medical Assessment

Clinical assessment is a part of assessment in the process of diagnosis of persons with mental retardation. It is carried out to identify the cause of mental retardation, refer to further investigations to confirm the cause and other anomalies and to plan and evaluate treatment.

The individual's current health, vision and hearing status are generally assessed by medical members of the assessment team. Medical assessment may include a health history, physical examination and any necessary laboratory tests. For example, if it is suspected that a person may have mental retardation due to genetic problems, to confirm he is referred to necessary laboratory tests. Following medical can be done to diagnose the mother and child as 'at risk'.

2.6.1.1 Prenatal Stage

- i. Blood Tests in the Mothers
 - Hemoglobin levels (Hb%) to detect anemia.
 - Blood glucose levels to detect diabetes.
 - Blood VDRL to detect syphilis.

- Blood group and Rh typing for blood group incompatibilities.
- Blood antibody titers to detect specific infections.
- Alpha foeto- proteins to detect neural tube defects in the foetus.
- ii. Ultrasonography (During Pregnancy)
- iii. Maternal Serum AFP (Alpha- fetoprotein)
- iv. Multiple Marker Screening
- v. Chorionic Villous Sampling
- vi. Amniocentesis
- vii. Ultrasound
- viii. Fetoscopy

2.6.1.2 Neonatal and Post-natal Screening and Diagnostic Procedures

- APGAR Score.
- Urine screening for metabolic errors- examples. PKU (phenyl ketoneuria).
- Blood biochemistry test for cretinism, Rickets, Jaundice etc.
- Blood antibody titers to detect infections.
- Chromosomal analysis for Down Syndrome, Deletion syndromes etc.
- Neonatal neuro-behavioural assessments.
- EEG (Electro-encephalogram) for seizure disorder.
- Visual Screening for visual impairments (visual acuity, fundus examination, retinoscopy etc.).
- Auditory screening - for hearing impairment (Tympanogram, BERA etc.)
- Ultra sonography.
- CT Scan (Computerized tomography).
- MRI (Magnetic Resonance Imaging) for intracranial pathology and structural abnormalities.

2.6.2 Psychological Assessment

Psychological assessment is the process of systematic collection, organization and interpretation of information about a person and situations, and the prediction

of the person's behaviour in a new situation. Psychological assessment encompasses assessment of the three major aspects of the mind namely, cognition, conation and affection. Psychological assessment involves understanding of the causes of the problem and the potential solutions for the problem.

The purpose of psychological assessment is to evaluate an individual or group of persons in relation to a specific issue or problem. These may include intellectual functioning, learning disabilities, special abilities, scholastic achievement, personality functioning, emotional and social areas and questions of normality and abnormality. The psychologist develops hypotheses based upon information or past behaviour, present behaviour and prediction for future behaviour as defined by given situations incorporated in assessment information.

Two major criteria are considered for the assessment of children with mental retardation :

- i) Level of Intelligence
- ii) Adaptive Behaviour

2.6.2.1 Level of Intelligence

Definition:

The widely accepted and most commonly used definition of Intelligence is as follows:

“Intelligence is the aggregate or global capacity of an individual to act purposefully, to think rationally and to deal effectively with the environment” - David Wechsler (1975).

Level of intelligence is assessed by intelligence test (whether it may be individual or group test) is psychological in nature. Intelligence test provides IQ (Intelligence Quotient) which is the index of mental maturity and cognitive functioning. Intelligence assessment has an important role in mental retardation, as sub-average intellectual functioning is one of the criteria of diagnosis. Intelligence is estimated only by applying intelligence scales. Based on its content intelligence scales are divided into verbal and performance / non verbal scales. Though there are group tests that can be administered on many at ones, individual tests are preferred for intelligence

testing, which requires observations of the individual characteristics such as attention, problem solving skills , motivation. Some of the commonly used tests are shown below:

Showing commonly used intelligence scales in India

Verbal Scales	Non- Verbal Scales	Performance Tests
<ul style="list-style-type: none"> • Binet - Kamat Test of Intelligence (Kamat, 1967) 	<ul style="list-style-type: none"> • Raven’ s Progressive Matrices Test - norms by Deshpande et. al. (2002) 	<ul style="list-style-type: none"> • Seguin From Board Three normative data arc available (Bharat Raj, 1971; Verma et. al. 1973; Ramachandran, 1985).
<ul style="list-style-type: none"> • Stanford Binet Intelligence Scale (Kulshreshtha, 1971) 	<ul style="list-style-type: none"> • MISIC – Performance Scales (Malin, 1971) 	<ul style="list-style-type: none"> • Gessell’s Drawing Test (Verma et al. 1972; Venkatesan, 2002).
<ul style="list-style-type: none"> • Malin’s Intelligence Scale for Inida Children (MISIC) — Verbal Scales (Malin, 1971) 		<ul style="list-style-type: none"> • Draw – A-Man Test (Pathak, 1951)

2.6.2.2 Adaptive Behaviour

Definition

The adaptive behaviour in general refers to the way in which an individual functions in his or her social environment. The American Association on Mental Retardation defines adaptive behaviour as, *“the effectiveness or degree with which the individual meets the standards of personal independence and social responsibility expected of his/her and culture group.”*

Assessment of Adaptive Behaviour

The behaviour of an individual changes regularly, depending on the types of social situations to which the individual has to respond. Many behaviours which are

appropriate in one setting could be totally inappropriate in another. The time and place and some times the age determines the appropriateness of a behaviour. The behaviour by itself is not 'good' or 'bad'. For example, sleeping in the bedroom versus classroom. Sleeping, which is an essential biological need becomes an inappropriate behaviour in the classroom, whereas, the same behaviour in the bedroom becomes an appropriate behaviour. The mentally retarded persons are known to exhibit inappropriate behaviour due to skill deficits or inability to perceive the appropriate behaviour for a given situation. Hence, the purpose of measurement is to determine what areas need special help, or special training in a particular situation.

Adaptive behaviour assessment determines the current level of functioning of the individual. It reflects the strengths of the individual as well as the weaknesses. Hence, the primary reason for measurement is an effort to help the individual to learn to improve themselves and to function within the socially acceptable norms. Adaptive behaviour assessment, which is based on the direct reporting of observable behaviours gives specific information on the assets and deficits of the individual. The reason for the deficits or not doing a task may fall into the following categories.

- a) The individual may never have had the experience or opportunity to carry out those particular tasks or behaviours.
- b) The individual may have certain physical limitations which prevent the performance of those behaviours.
- c) The individual may be totally under-motivated for those particular behaviours because of certain cultural patterns or experiences.

Adaptive behaviour scales / Tools for assessment of adaptive behaviour

the adaptive behaviour, which projects our behaviour in the personal and social areas, reflects our ability to respond to the environment. Thus adaptive behaviours come under the broad domains of functional independent skills, personal and social responsibility, and independent living skills. These elements combine to form an organized behavioural pattern of the individual. Some of the popular adaptive behaviour scales used for assessing the mentally retarded persons are:

SI. No.	Name of the Scale	Approach	Age Group	Remarks
1	Vineland Social Maturity Scale (VSMS; Malin, 1968; bharatraj, 1992)	Normative	Applicable for 0-15 years; but is used with any age group of suspected cases of mental retardation	Yields social quotient (SQ). Provide a profile of adaptive behavior domains. Indicates just the target areas.
2	Madras Developmental Programming System (MDPS) – (Jeyachandran & Vimala, 1975)	Criterion	Not defined from age point of view- but appears to be applicable for age 3 years and above, as the items reflect content from primary level and upwards.	One of the first test of its kind in India. Useful for Individualized Programme Plan.

2.6.3 Educational Assessment

Educational assessment is a central aspect of evaluation of special education. Educational assessment is the measurement of student performance before and after instruction and includes reading, mathematics, spelling, writing and scholastic subjects in the school curriculum or skills required for independent living. The information coming from psychological test reports will only tell us whether certain prerequisites necessary for academic achievement are present or not. But to know the exact level of academic level, processing error if any. we need details educational reports.

2.6.3.1 Need for Educational Assessment

- To determine strengths and weaknesses in academic achievement
- To screen students who may have deficits in academic achievement
- To identify, classify, and place students with deficits in achievement
- To plan instructional programmes and develop intervention activities
- To develop IEPs
- To evaluate student progress
- To monitor program effectiveness.

To assess a child, two major types of testing are done i) Norm Reference Test (NRT) and ii) Criterion Referenced Test (CRT). Both has been discussed earlier.

2.6.3.2 Tools for Educational Assessment

Some of the Western Achievement Tests used for children with learning problems include;

- Peabody Individual Achievement Test (PIAT)
- Wide Range Achievement Test (WRAT)
- Kaufman Assessment Battery for Children (K-ABC)
- Brigance Diagnostic Inventories
- Bender Visual Motor Gestalt Test
- Developmental Test of Visual Motor Integration
- Peabody Picture vocabulary Test
- Woodcock Johnson Psycho educational Battery.

Some of the suitable screening and assessment tests for use by teachers developed in India include:

- Diagnostic Test of Learning Disabilities (S. Swarup & D. Mehta)
- Behavioural Checklist for Screening the Learning Disabled (Swarup & Mehta)
- Grade Level Assessment Device for Children with Learning Problems in Primary Schools (J. Narayan)
- Arithmetic and Diagnostic Test for Primary School Children (Ramaa, S.)

2.6.4 Behavioural Assessment

It facilitates understanding of whole range of behaviours including the skill behaviours and problem behaviours. The assessment explains the behavior as a function of environmental conditions (e.g. stimulus, positive and negative consequences). and provides a meaningful link between the skill behaviours and problems behaviours. Example, taking others' objects without permission (i.e. problem behaviour) may be due to lack of language skills (i.e. skill deficit). Restlessness in class may be linked with inability to follow instructions. At milder level they interfere with teaching-learning, in extreme cases they are a potential reason for stigmatization, institutionalization. Taken together, profile of skill behaviours and problem behaviours also suggest possibility of associated developmental disorders such as autism, ADHD etc. Therefore, assessment of both skill behaviours and problems behaviours is required for programme planning.

2.6.4.1 Rational of Behavioural Assessment

- This approach postulates that behaviours are learned. It means every behavior develops with practice and experience. For example, self-help skills, academic skills are learned in informal and formal situations, respectively.
- Behaviours are likely to increase when they are rewarded. For example, when a child is appreciated for taking bath or doing his homework, he is more likely to repeat that particular behavior.
- Behaviours are likely to decrease when they are not rewarded or punished.
- Behaviours occur with various intentions, for example, certain behaviours fetch us materials, attention/ social approval of others, or keep us occupied, or let us escape from a situation.
- The key to change the behaviours is to study what triggers the behaviours (i.e. antecedents) and what maintains or reduces the behaviours (i.e. the consequences such as rewards, punishment procedures), and what benefit (i.e. the function) the child derives through this behavior.
- Antecedents provide information on the reason, time, place and person triggering the behaviours. While consequences include the present ways of management of the behavior.

2.6.4.2 Assessing Behaviours

Behavioural assessment can be done through informal methods such as observation and interviewing and formal methods such as rating scales. The main problem with informal method is comprehensive assessment is not possible. Secondly, the observer's presence might change the course of the behaviours. Lastly, particular behavior may not occur when we want to observe. Otherwise, observation is the convenient, inexpensive method. Formal assessment can be done using the following scales given below:

Sl. No.	Name of the Scale	Approach	Age Group	Remarks
1	Behavioural Assessment Scales for Indian Children with Mental Retardation — (BASIC – MR; Peshawaria & Venkatesan, 1992).	Criterion	Meant for 3-18 years older persons with MR but can be suited in older groups in case of sever retardation.	Designed to assess both skill and problem behaviours. Indicates corresponding age for groups of skill behaviours
2	Behavioural Assessment Scales for Adult Living Mental Retardation — (BASAL-MR; Peshawaria et al., 2000)	Criterion	Meant for persons mental retardation above 18 years old	Designed to with assess both skill and problem behaviours
3	Problem Behaviour Checklist (Aryaetal., 1990)	Criterion	Age group not specified	Assess problem behavior in hme and school setting.

2.6.5 Ecological Assessment

This approach stresses the importance of curricular items based on environment - instead of the “watered down curriculum” This approach emphasizes the inclusion of those content areas necessary for independent living in his/her environment. It gives emphasize the assessment of environment of the CWSN rather than child with mental retardation. An ecological inventory involves analysis of multiple levels of environments before functional skills are identified. The first level of analysis is to identify the curriculum domain(s). Domains are settings rather than content areas. There are four curriculum domains: (a) vocational, (b) leisure/recreational, (c) domestic, and (d) community utilization. The next level is to identify natural environments with each domain, followed by identification of sub environments within each natural environment. As a next step, the planner identifies activities within each sub-environment and then skills within each activity. These include such areas as language, motor, arithmetic, self-care, and social skills. However, their occurrence is measured within a social ecology (ie., within the four domains).

Domestic Environments:

The team considers the student’s life in and around his / her actual home. Team members identify specific areas within and around the home (e.g. bedroom, bathroom, yard) where greater students participation is desired.

Vocational Environment:

For young children the vocational domain is usually in the home and school environments where children may have chores and class or school jobs.

Community Environments : These include transportation system, streets and sidewalks, and all businesses, services, and facilities in the community. For young children, school environments would have priority over other community environments. Therefore, children might receive instruction related to riding the bus and crossing streets. Others would be based on family needs.

Leisure Environments:

This will often overlap with environments previously identified because leisure activities occur in all these environments. Selection would reflect student interests and preferences. It may also be highly dependent upon interests and priorities of family members and typical peers, since they ultimately enable the student to access the environments.

This would lead to the decision making on what the retarded child -

- Can already do
- What can be done by him with training and/ or adaptation
- What he cannot do at all

Once environments in which the student will participate are identified, the next steps in designing an individualized, ecology curriculum are to identify priority activities and routines and to identify priority skills.

Relevance

- Assessing the large group students within very short time
- To develop functional curriculum
- Activity based IEP
- Helps in normalization process
- Make positive awareness among the community members
- Community involvement
- To select appropriate vocational skills for training or independent living

2.7 Documentation of Assessment, Result Interpretation and Report Writing - Implication of all the above for Inclusion

2.7.1 Concept of Documentation

Whatever is the educational facility in which the student is being educated; appropriate documentation is of utmost importance. Right from birth history and diagnosis to disability certification, school admission, assessment, curriculum planning, implementation and evaluation, future planning, vocational training and placement leading to economic independence - all have to have records at each stage. Documentation simple means systematically storing information collected from various sources using appropriate procedures for predetermined purposes.

2.7.1.1 The Importance of Documentation

Children's learning is enhanced

- Children become even more curious, interested, and confident when they think about the meaning of what they have done.
- The processes of preparing and displaying examples of the children's experience and effort provides a kind of debriefing or revisiting where new understandings can be clarified, deepened, and strengthened.
- Children also learn from and are stimulated by each other's work in ways made visible through the documents displayed.
- A display documenting the work of one child or of a group often encourages other children to become involved in a new topic and to adopt a new method of doing something.

Children's ideas and work are taken seriously

- Careful and attractive displays can convey to children that their efforts, intentions, and ideas are taken seriously.
- These displays are not intended primarily to serve decorative or show-off purposes.
- An important element in the project approach is the preparation of documents for display by which one group of children can let others in the class working on other parts of the topic learn of their experience and findings.

- Documentation encourages children to approach their work responsibly, with energy and commitment, showing both delight and satisfaction in the processes and the results.

Children's learning made visible

- Documentation provides information about children's learning and progress. The focus is on how children making meaning, of how they come to understand.
- While teachers often gain important information and insight from their own first-hand observations of children, documentation of the children's work in a wide variety of media provides compelling public evidence of the intellectual capability and competence of young children.
- Documentation uncovers the learning process as it highlights children's theories, interests and relationships.
- Conversation or dialogue is used to present children's words as serious attempts to understand concepts and ideas.

Teachers plan and evaluate with children

- Continuous planning is based on the evaluation of work as it progresses.
- As the children undertake complex individual or small group collaborative tasks over a period of several days or weeks, the teachers examine the work each day and discuss with the children their ideas and the possibilities of new options for the following days.
- Planning decisions can be made on the basis of what individual or groups of children have found interesting, stimulating, puzzling, or challenging.
- Experiences and activities are not planned too far in advance, so that new aspects of work can emerge based on children's interests and be documented.
- Teachers reflect on the work in progress and the discussion that surrounded it, and consider possible new directions the work might take
- When teachers and children plan together with openness to each other's ideas, the activity is likely to be undertaken with greater interest than if the child had planned alone, or the teacher had been unaware of the challenge facing the child.
- The documentation provides a kind of ongoing planning and evaluation that can be done by the team of adults who work with the children.

Teacher research and progress

- As teachers examine the children's work and prepare the documentation of it, their own understanding of children's development and insight into their learning is deepened.
- Documentation provides a basis for tweaking teaching strategies, and a source of ideas for new strategies, while deepening teachers' awareness of each child's progress.
- Using information gained through documentation, teachers are able to make informed decisions about appropriate ways to support each child's development and learning.
- Documentation explains how one activity was pivotal in understanding an issue, connecting to previous learning, or provoking a new inquiry.
- Documentation helps teachers promote a positive exchange of ideas.
- Documentation highlights the issues or problems that emerge during a study or activity.

Parents' appreciation and participation

- Documentation makes it possible for parents to become more aware of their children's experience in the school.
- Parents' comments on children's work can also contribute to the value of documentation.
- Through learning about the work in which their children are engaged, parents may be able to contribute ideas the teachers may not have thought of.
- The opportunity to examine the documentation of a project in progress can also help parents to think of ways they might contribute their time and energy in their child's classroom.
- There are many ways parents can be involved in documentation within the classroom: listening to children's intentions, helping them find the materials they need, making suggestions, helping children write their ideas, finding and reading books.

2.7.1.2 Methods of Documenting Results

Various methods of documenting evaluation results are in practice in education of children with special needs.

IEP format

The IEP form has a provision to document evaluation results after a specific duration or time period. The teacher indicates the evaluation procedure and the criteria to be achieved in IEP.

As specified in the plan, the student is evaluated, then the performance of the student is compared with the set criteria indicated in specific objective to measure the progress made by the student.

Checklists used for assessment and programming

Activity checklists are used as an alternative method to document progress in students by the educationists. The teachers who use the checklists as basis for selection of content for teaching students, also can use them to note the mastery of activities.

Task analysis checklist

Task analysis checklists are extensively used in pre and post instructional assessment of students with mental retardation. The task analysis checklist is a blue print of content of a task to be taught. It pinpoints objectively the performance level of a student and guides teacher in planning instruction systematically. Daily/weekly recording of the progress of student can be noted which helps in summarizing the results at the end of instruction. Also, it depicts the progress of a student at a glance.

Graphs

Graphing provides a visual representation of student progress and may take many forms. Progress towards a goal may be checked daily or weekly by the teacher or student. The following are some of the advantages of maintaining graphs.

- a) Graphing the progress provides a continuous visual indication of progress made by the student towards a specified objective.
- b) They are so sensitive that they indicate small changes, which were not apparent to teacher or student.
- d) Apart from indicating the progress made by student, it shows the rate of achievement.

Constructing graphs for daily recording for all students is time consuming for teaching. However, cumulative records may be developed by teachers.

Work samples

Samples of student's work during instruction can also help in comparing the performance of a student. Areas such as handwriting, written work in language, arithmetic, and work samples are better evaluative devices to decide the mastery of learning.

Anecdotal records

Anecdotal records are brief written records of students' behaviour or incidents. They should be factual descriptions of student behaviour or incident and should be used for recording information about unanticipated behaviour. We keep hearing from special educationists making remarks that "X" spoke a word to call the attention of other child which he did not do earlier, picked up on his own tiffin box before going to the dining place, etc." Such kind of descriptions will make teachers think and understand the student better in providing instruction.

Progress Report:

Progress report is another format used for recording the achievement of students periodically. A class teacher generally records the performance/ achievement of students for giving feedback to parents/family members.

2.7.2 Interpretation

Giving meaning to different outcomes of the training programmes is essential to perceive the training package. Interpretation is a process of perceiving the pros and cons of training programmes. Interpretation helps the educative, the parents and other professional associates with the training programme to understand are relevant factors influencing the training programme.

2.7.2.1 Level of Interpretation of Assessment

- Level-I: Interpretation during the initial assessment
- Level-II: Interpretation during the training programme
- Level-III: Interpretation after the completion of training programme

Level-I: Interpretation during the initial assessment

When an individual training programme is decided for a student, it is essential to collect information about the student's background, student's present performance, student's ability and resources to be mobilized to accelerate the training programme.

Information collected from all the above factors must be interpreted to see all possible positive factors that could be integrated for the training programme.

- Interpretation of Personal Data
- Interpretation of Student's Ability
- Interpretation of Student's Performance
- Interpretation of Resources

Interpretation of Personal Data

- Prenatal, Natal, Post-natal History
- Education History
- Medical History
- Immunization Details\
- Developmental History

Interpretation of Student's Ability

It is essential to understand the student's ability in terms of intelligence and aptitude. Assessment also should focus to understand the interest and attitude of the student for different training programmes. The student's overall ability and specific ability must be assessed and interpreted to decide specific task for training.

Interpretation of Student's Performance

Student's performance must be understood from different angles. Usually the performance is elicited by using a behavioural scale during assessment. Other than the result of the behavioural scale, the past opportunity given to the student must be noted. The background information of the student like the family income, education, involving in training, and exposure and socio-cultural background must be understood for giving a conclusive statement on performance.

Interpretation of Resources

Data must be collected to understand the resources available for development of the student and training to the student. For example, toilet training to a ten years mentally retarded boy, it is essential to know a few aspects like:

- The type of toilet used by the family
- The person would be involved in training
- The cultural believe for toileting
- Cleaning system after toileting etc.

Developing teaching materials for the student must be based on the resources of the parents, if the parents are affordable to purchase highly costly materials then it will be worthwhile to prescribed such materials. On the other hand, the poor people could be advised to develop teaching materials in local available materials with less expenditure.

Level-II: Interpretation during the training programme

- " It is essential to see the speed of training, and other relevant factors influencing training during different phases of the programme.
- " Understanding the result, the methods, the efficiency of materials, and the usefulness of techniques is essential to enhance the training programme.
- " Hence, it is essential to interpret the intermittent improvement, and other associated factors for training programme.
- " It must noted that, interpretation during the training programme would help to bring changes in the training programme as per the requirement.

Level-III: Interpretation after the completion of training programme

After the completion of training programme, it is essential to review and understanding the various factors influenced the training programme. Interpretation of the overall result, specific result i.e. result in each skills, the methods used form training programme such as: a) play way method, b) structured method, c) project method and techniques used for training programme. It is essential to understand the whole scenario of the training programme. It also give idea for deciding the further training programme to be given to the student.

2.7.3 Report Writing

The dictionary meaning of 'report' is to give a spoken or written account of something providing official information or evidence (Oxford Dictionary, 2005). A report can be defined as a testimonial or account of some happening. Report is a

self-explanatory statement of facts relating to a specific subject and serves the purpose of providing information for decision making and follow up actions. It is a systematic presentation of ascertained facts about a specific event / subject. Report is a summary of findings and recommendations about a particular matter / problem. Report is for the guidance of higher authorities. Reports facilitate timely decisions and follow up measures. In today's world, reports play a crucial role.

2.7.3.1 Purpose of a report: writing to be read

A key thing to keep in mind right through your report writing process is that a report is written to be read, by someone else. This is the central goal of report-writing. A report which is written for the sake of being written has very little value. Before you start writing your report, you need to have in mind the intended audience. In the narrowest of possibilities, your report is meant for reading by yourselves, and by your advisor/instructor, and perhaps by your evaluation committee. This has value, but only short-term. The next broader possibility is that your report is readable by your peers or your juniors down the line. This has greater value since someone else can continue on your work and improve it, or learn from your work.

In the best case possibility, your report is of publishable quality. That is, readable and useful for the technical community in general. In special education, there are number of reports written for numerous purposes by varied professionals.

Writing report for administrative decision

- Diagnosis and certification
- IQ assessment
- Placement in appropriate schools
- Eligibility to various benefits and concessions offered by the government
- Access to suitable adaptive devices for independent mobility, communication and learning
- Establishing rights.

Writing reports for educational programming

This report is solely done by the teacher at the initial stage, formative stage and summative stage for promotion to next level or for future use. A report that is periodically written by all the teachers in regular or special school is the progress

report. For a student with special needs, make sure that your report is not only quantitative (percentage or other form of numerical values) but also qualitative, narrating the progress in each domain/subject as the case may be.

Writing reports for alternative placement

As notated by Raymonds (2008), the law demands that every child should have a careful assessment of strengths and needs with respect to participation in general education curriculum., goals and objectives set to enable the student to show progress in that curriculum and finally decisions on where the services are to be provided for maximum benefit to the student. These placement decisions are very carefully made by the team and reviewed periodically.

Writing reports for referral

A child may come to you referred by a professional or others or you may have to refer the child for further assessment or programmes. When cases are referred for certification or services, there should be a proper format and system so that the efforts are documented. This will also ensure receiving feedback from the referred agency. Referrals are made in the beginning at the time of initial team assessment, during the implementation of the educational programmes and lor on the completion of school admission. Proper reporting is required for referring the child to the others professional.

2.7.3.2 The essentials of good/effective report writing are as follows-

1. Know your objective, i.e., be focused.
2. Analyze the niche audience, i.e., make an analysis of the target audience, the purpose for which audience requires the report, kind of data audience is looking for in the report, the implications of report reading, etc.
3. Decide the length of report.
4. Disclose correct and true information in a report.
5. Discuss all sides of the problem reasonably and impartially. Include all relevant facts in a report.
6. Concentrate on the report structure and matter. Pre-decide the report writing style. Use vivid structure of sentences.

7. The report should be neatly presented and should be carefully documented.
8. Highlight and recap the main message in a report.
9. Encourage feedback on the report from the critics. The feedback, if negative, might be useful if properly supported with reasons by the critics. The report can be modified based on such feedback.
10. Use graphs, pie-charts, etc to show the numerical data records over years.
11. Decide on the margins on a report. Ideally, the top and the side margins should be the same (minimum 1 inch broad), but the lower/bottom margins can be one and a half times as broad as others.
12. Attempt to generate reader's interest by making appropriate paragraphs, giving bold headings for each paragraph, using bullets wherever required, etc.

2.7.4 Inclusive Education and Assessment

The Individuals with Disabilities Act Amendments of 1997 (IDEA 97) defines inclusion as the participation of children and youth with disabilities in the general education classroom and the general curriculum with appropriate aids and services.

Inclusion means full inclusion of children with diverse abilities (that is, both giftedness and disabilities) in all aspects of schooling that other children are able to access and enjoy. It involves 'regular' schools and classroom genuinely adapting and changing to meet the needs of all children as well as celebrating and valuing differences (Loreman and Deppeler 2011).

The related concept of full inclusion refers to full membership in the general classroom with the full supports necessary to make inclusion successful (Sailor et al., 1993). The term full supports describes the importance of providing necessary support services in general education classrooms to ensure a quality educational programme.

Why do we modify assessment for students with disabilities in inclusive settings?

- Experts expect that inclusion will result in school classrooms composed of much more diverse groups of students (Putnam et al., 1995). As a result teachers need to develop new instructional methodologies and assessment procedures that respond to the greater diversity of student needs.

- Although assessment in inclusive settings requires changes, many current evaluation practices work equally well in inclusive and noninclusive educational settings. For ego Many curriculum based assessment procedures such as teacher made testing, grading of homework assignments, grading of classwork already occur in the same way in most classrooms. In fact, teachers should use established assessment procedures whenever possible as long as they meet the increasingly diverse needs of the students.

2.7.4.1 Assessment Issues in General Education

- When asked about inclusion, many general education teachers may feel that required modifications for students with special need lead to a watered-down curriculum.
- Special education teachers often express concerns about the emphasis in general education on testing as a means of accountability. This causes pressure on general educators to make sure that their students perform well on tests. Because students with special needs tend to perform poorly on tests, general educators may be hesitant to accept inclusion due to fears about a negative impact on the testing performance of the total class.

Educators who are teaching students with special needs in inclusive settings are still in the process of developing the best possible solutions to these issues and concerns.

2.7.4.2 New approaches to assessment in inclusive settings

(a) Team assessment:

One of the most useful assessment approaches in inclusive classroom is team assessment, which is a process that involves all teachers in the evaluation process, not just special education teachers in particular who concern about testing and grading students with disabilities are.

- Successful inclusion depends in part on the willingness of teachers to modify their measurement procedures are all different (Tiegerman-Farber & Radziewicz, 1998).
- If most of the teachers are willing to collaborate as coteachers in developing and implementing new assessment techniques that benefit all students while accommodating the needs of students with disabilities.

- One of the team assessment elements that teachers should consider is how well the members of the assessment team work together.
- Active participation of all team members in gathering and interpreting assessment data is a key element. All the team members should help interpret assessment data. The benefit of team assessment is more complete evaluation of student needs within the most appropriate educational environment.
- Team assessment requires a substantial amount of time, professional commitment and interpersonal communication (Coufal, 1993).

(b) Cooperative learning assessment

Cooperative learning is an instructional strategy that works well in inclusive settings. Research studies by Pomplan (1997) and Carlson et al. (1988) provide further evidence to support the use of cooperative learning in inclusive classrooms. These studies suggest that nonroutine, open ended tasks maximize the participation of students with disabilities in heterogeneous cooperative groups.

When teachers use cooperative learning, they are responsible for ensuring that appropriate assessment takes place. The steps in assessing cooperative learning are as follow:

- Specify the objectives
- Develop the assignment
- Determine grading criteria
- Explain the assignment and share the grading criteria with the students
- Monitor the efforts of the cooperative groups
- Interfere and provide support as necessary
- Evaluate the results

Teachers may use several assessment strategies to evaluate results, including the following:

- Observing group performance as it occurs
- Interviewing individual students and groups of students
- Evaluating individual and group performance on class work and homework.
- Grading teacher-made tests given to individuals or groups.

(c) Peer assessment of class presentation:

Any activity done by a student can be evaluated by peers as well as the teacher. One way to encourage group interdependence and to foster peer assessment is to structure classroom activities / presentations so that all members must learn the activity / material being presented.

- The rating system should include items for assessing the quality of the presentation, the interest generated by the presentation, the organization, creativity, originality and peer participation.

(d) Group assessment:

- In real life the success of an organization many a time depends upon the team performance rather than the success of an individual. For this reason, cooperative learning assignments in school should require group reports, exhibits, performances and presentations in which the students work together and are graded as a group.
- Group celebration should occur at the end cooperative learning lessons after completion of assessment and grading. Group celebrations give students the opportunity to salute their success and reflect on how well they collaborated to achieve their learning goals.
- Recognizing the learning efforts of group members and their contribution to the learning of others is an important element in rewarding group interdependence.

(e) Peer tutoring assessment:

- Peer tutoring is an instructional strategy in which a student tutor teaches another student in a tutor-tutee relationship designed to promote academic learning and social skill development.
- Successful peer tutoring involves planning, tutor training, teacher support and assessment. Some teachers assess the progress of tutees by having complete daily progress sheets.

(f) Play-Based assessment:

This method is highly recommended for assessing all the developmental areas and there is a highly likelihood that the child will demonstrate his/her true abilities in this setting. Play-Based assessment yield information to develop a plan for intervention to make the recommendations for goals or out-comes for the child and family and assessment team.

Psychologist Diane Ashton describes the following categories of play:

- Solitary play (all ages): The child plays alone. This type of play is not necessarily an indicator of immaturity. High-level play may occur.
- Onlooker play (all ages): The child watches other people play. This type of play appears to be a passive process whereby the child observes the play levels of other children. The examiner should use caution in interpreting this type of play.
- Parallel play (1-3 yrs.): Two children pursue similar activities but do not always engage in eye-contact or social behavior. Children play alongside each other.
- Associative play (2-3 yrs.): Children engage in same or similar activity and may exchange toys or make occasional comments to each other. This type of play lacks organization.
- Cooperative play (4-5 yrs.): This type of play is organized play with cues, rules and individual functions well defined.

There are specific play assessment instruments that might be used by the practitioner. Eg.- play observation scale (Rogers, 1986) which describes a 10-step hierarchy that focuses on language, cognitive and social aspects of play.

(g) Portfolios and assessment:

A student portfolio is a systematic collection of student work and related material that depicts a student's activities, accomplishments and achievements in one or more school subjects.

Performance assessment:

It is an ongoing process that captures the many activities and accomplishments associated with reflective teaching and learning that occur in portfolio-based instruction. By evaluating progress using a collection of authentic samples of student work, portfolio assessment provides an ongoing record of student performance and mastery of specific competencies (Vavrus, 1990).

Usefulness of portfolios for the students with special needs:

- Portfolios encourage individualization in response to the special learning needs of each student.

- Portfolio assessment enhances student motivation.
- It promotes mastery learning.
- It is an ideal way to evaluate the skills of students with special needs.

Process & Product portfolios:

- A process portfolio documents the stages of learning and provides a progressive record of student growth.
- A product portfolio demonstrates mastery of a learning task or a set of learning objectives and contains only the best work.

Advantages of portfolio assessment:

- Providing flexibility in measuring how students accomplish their learning goals.
- Enabling teachers and students to share the responsibility for setting learning goals and for evaluating progress toward meeting those goals.
- Providing a process for structuring learning in stages.
- Enabling measurement of multiple dimensions of student progress by including different types of data and materials.

Disadvantages of portfolio assessment:

- Requiring extra time to plan an assessment system and conduct the assessments.
- Gathering all of the necessary data and work samples can make portfolios bulky and difficult to manage.
- Scoring portfolios involves the extensive use of subjective evaluation procedures such as rating scales and professional judgments and this limits reliability.

(h) Performance assessment:

- Performance assessments provide greater realism of tasks in the following forms:
 2. Solving realistic problems.
 3. Oral or psychomotor skills without a product.
 4. Writing or psychomotor skills with a product.

- Restricted performance tasks are highly structured and limited in scope. Extended performance tasks are typically poorly structured and broad in scope.

Strengths

1. Provides a more natural, direct and complete evaluation of some types of reasoning, oral and physical skills.
2. Provides greater motivation for students by clarifying goals and making learning more meaningful.
3. Encourages the application of learning to "real life" situations.

Limitations

1. Requires considerable time and effort to use.
2. Evaluation must frequently be done individually, rather than in groups.

(i) Modifying Teacher-Made Tests:

Teacher made tests frequently fail to give students with behavior and learning disabilities the opportunity to demonstrate what they have learned. This occurs because students with disabilities may have deficit in attention, memory, organization, reading or writing that hinder performance on teacher-made tests. For these reasons teachers need to incorporate test design accommodations that minimize the effect of attention and memory problems. Test design accommodation includes the following:

Test Directions-

In some situations, students with special needs may receive poor marks on a test due to difficulty in following the test directions rather than lack of competency to perform the test content. Teachers can minimize this problem by using cues include color coding, using symbols etc.

Response Modes-

Teachers may need to modify the response modes of test items for students with written or verbal communication difficulties. For example Students can record responses on an audiocassette or can give oral exam.

Test items-

Teachers can improve student performance by doing these things:

- Keeping the response choices as brief as possible.
- Avoiding potentially confusing choices such as all of the above or none of the above.
- Limiting the number of choices to no more than four items.

2.7.4.3 Some Adaptations during Assessment:

- Avoid long talks before tests.
- Provide an example of expected correct response.
- Seat students in a quiet place for testing
- Place a testing sign on the classroom door to discourage interruptions.
- Avoid threatening to use a test to punish students for poor behavior.
- Give a practice test.
- Give a retest if needed.
- Do not threaten dire consequences for failure.
- Grade on percentage of items completed.
- Have students regular test with the class and the adapted test in resource room or in a separate room.

2.8 “Check Your Progress”

1. What do you understand by assessment?

2. What are the key components in the definition of assessment?

3. Explain the purposes of assessment.

4. How do you collect assessment data?

5. Testing is the part of assessment process? Explain.

6. Develop a observation checklist for assessing the classroom behavior of the children with mental retardation.

7. Explain the rational of CRTs and NRTs in special education.

8. Differentiate the CRTs and NRTs

9. Mention briefly the group of informal assessment measures in special education.

10. How can you develop a curriculum based assessment in inclusive setup?

11. Define Intelligence. Name two intelligence tests commonly used for children with mental retardation.

12. Make a list of various educational assessment tools.

13. Write the different pre natal and post natal medical screening procedures.

14. Write the rational of behavioral assessment

15. What is documentation? Discuss the importance of documentation.

16. How will you interpret at the initial assessment?

17. List out the principles of report writing.

18. Write some adaptations could be followed during the assessment in inclusive setup.

2.9 Let us Sum up

- Each child with mental retardation is unique in nature. Special education can identify the unique need of each child through proper assessment and plan intervention activities as per the requirement. Assessment is a pivotal and the first step of rehabilitation programme for the children with Mental Retardation.
- Assessment is collection and organization of information for making administrative and instructional decisions.
- Assessment is carried out for various purposes such as (a) screening and identification, (b) determining and evaluation of teaching programmes and strategies, (c) determination of current level performance and educational needs, (d) classification and programme placement, (e) development of IEPs and (f) evaluation of the effectiveness of intervention programme.
- Assessment will utilize several methods ranging from observation to testing and experimentation. Observation is the most inexpensive method. Testing and clinical investigations are relatively costly and provide more objective information. Sometimes, external tools such as screening measures, schedules and scales are necessary to conduct assessment.
- There are different types of assessment. Based upon the manner of data collection it is formal and informal assessment and based upon the construction of test assessment could be Norm Referenced Assessment (Test) (NRT) and Criterion Referenced Assessment (Test) (CRT).
- NRT helps more in administrative decisions whereas the CRT helps more in instructional purpose.
- Most of the psychological test such as Developmental Test, Intelligence Test

and Aptitude Test are NRT in nature whereas most of the behavioural scale used in Special Education are CRT in nature.

- The different areas of assessment are clinical assessment, psychological assessment, educational assessment behavioural assessment and ecological assessment.
- Clinical assessment is a part of assessment in the process of diagnosis of persons with mental retardation. It is carried out to identify the cause of mental retardation, refer to further investigations to confirm the cause and other anomalies and to plan and evaluate treatment.
- Psychological assessment is the process of systematic collection, organization and interpretation of information about a persons and his situation. It encompasses assessment of the three major aspects of the mind namely, cognition, conation and affection.
- Intelligence is the aggregate or global capacity of an individual to act purposefully, to think rationally and to deal effectively with the environment. Intelligence tests, developmental schedules and adaptive behavioural scales are used in measuring the intelligence.
- Educational assessment helps to find out abilities of the student and plan teaching programme accordingly. Norm referenced tests and criterion referenced tests are used in educational assessment.
- Behavioural assessment is systematic repeated recording of predefined behavioural parameters of individuals, with a purpose of either identifying functional stimuli that maintain certain behaviours or demonstrating systematic behavioural changes as a function of planned intervention.
- Ecological Assessment stresses the importance of curricular items based on environment - instead of the " watered down curriculum". This approach emphasizes the inclusion of those content areas necessary for independent living in his/ her environment. It gives emphasize the assessment of environment of the CWSN rather than child with mental retardation.
- Documentation is a vital process in any programme. It makes the programme more system dependent than a person dependent. Educators employ various methods for documenting evaluation data. They are IEP form, activity checklists, task analysis checklist, graphs, work samples and anecdotal records.

- Interpretation is a process of perceiving the pros and cons of training programme. There are 3 levels of Interpretation
 - Level-I: Interpretation during the initial assessment
 - Level-II: Interpretation during the training programme
 - Level-III: Interpretation after the completion of training programme
- Reports are generated for various purposes. Some of the important purposes for which reports are generated include administrative decisions, educational programming, referrals and for alternative placement.
- Experts expect that inclusion will result in school classrooms composed of much more diverse groups of students (Putnam et al., 1995). As a result teachers need to develop new instructional methodologies and assessment procedures that respond to the greater diversity of student needs.

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