

VU LEARNING HUB

vulearninghub.xyz

HIGHLIGHTED HANDOUT

EDUA405

Assessment and Evaluation in Early Years
of Education

EDUA405 by VU Learning HUB

Prepared for VU students • Free study resources

<https://vulearninghub.xyz>

ASSESSMENT AND EVALUATION IN EARLY YEARS OF EDUCATION (EDUA405)

Table of Contents

Lesson No.	Lesson Title	Pg. No.
1.	Assessment and Evaluation in Early Childhood	01
2.	General Principles for Guiding Assessment and Evaluation	06
3.	Types of Assessment Procedure	09
4.	Use of Assessment in Classroom Instruction	12
5.	Assessment, Testing and National Curriculum	16
6.	Taxonomies of Educational Objectives and Assessment	19
7.	Bloom's Taxonomy of Learning Objectives	27
8.	Instructional Objectives	32
9.	Purpose of Testing	35
10.	Assessment by Use in Classroom Instruction	44
11.	Table of Specification	47
12.	Selection of Test	54
13.	Characteristics of Good Test	57
14.	Evidences of validity (Continue)	62
15.	Nature of reliability	65
16.	Method of estimating reliability (Continue)	69
17.	Types of Assessment tools	71
18.	Portfolio	74
19.	Purpose of Portfolio	76
20.	Performance based assessment I	79
21.	Performance based assessment II	81
22.	Performance based assessment III	84
23.	Performance based assessment IV	88
24.	Performance based assessment V	91
25.	Performance based assessment VI	94
26.	Creating Fixed-Choice Test Items	97
27.	Advantages and Limitations of MCQs	104
28.	Suggestions for constructing MCQs	106
29.	True/ False items	114
30.	Suggestions for Constructing True-false (alternative form) items	118
31.	Matching Exercises	122
32.	Suggestions for constructing Matching Exercises	125
33.	Developing short answer/completion questions	128
34.	Suggestions for constructing short answer/completion questions	131
35.	Analyzing Test Items	133
36.	Item Characteristic Curve (ICC) in Item Response Theory	140
37.	Assembling Test	149
38.	Administering Test	154
39.	Standardized Test	158
40.	Interpreting Test Scores	162
41.	High Stake testing and issues	166
42.	Grading and Reporting	171

43.	Classroom Incentives	176
44.	Issues and practices in assessing young children	180
45.	Technology and testing young children	186

ASSESSMENT AND EVALUATION IN EARLY CHILDHOOD

We will discuss about the three main concepts of educational testing and measurement i.e. measurement, assessment and evaluation and the difference about them

At the end of this topic, students will be able to explain

1. What are educational measurement, assessment and evaluation?
2. Difference among educational measurement, assessment and evaluation

Topic 1: Measurement

Measurement is the process by which the attributes or dimensions of some object (both physical and abstract) are quantified. The tools used for this purpose may include test, observation, checklist, homework, portfolios, project etc. (the process of changing the person's ability into numbers is measurement). Measurement can be easily understood if we use this word to measure height and distance because these things are physical present in their existence so height can easily be measured by scale. But in the field of education, our variables are not physical and cannot be directly measured e.g. attitude, behavior, and achievement etc. these all are abstract, so there measurement is relatively difficult than those who have physical existence. The tool used for measuring the abstract variables cannot measure exactly like scale (thermometer).

So in this whole course, whenever the measurement word is used it means that tool which will be used for measuring student abilities and then converts it in numerical form.

Topic 2: Assessment

It means appraisal of something to improve quality of teaching and learning process for deciding what more can be done to improve the teaching, learning and outcomes.

Definition-1:

Assessment is the systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development. (Palomba & Banta, 1999)

Definition-2:

Assessment is the process of gathering and discussing information from multiple and diverse sources in order to develop an understanding of what students know and understand; the process culminates when assessment results are used to improve subsequent learning. (Huba & Freed, 2000)



In short, the main points in these definitions are:

- Process of gathering information
- Multiple sources
- Develop and understand
- Improvement

Emerging Points from These Definitions:

1. **Assessment is a systematic process:** certain circumstances, goals and planning must be kept in mind while assessment. Nothing can take place haphazardly. See the image below:



2. **Information is gathered from different sources:**

There are many sources to get information about the students like homework, exam papers, class test, projects etc.

3. **Judgment**

We gather all the information for judgment about what has yet achieved and what is still missing. Making such judgments is the essential part of process of improvement.

4. **About a process or product**

Now this judgment is made for the assessment about a process or product. All the classroom activities and learning are a process and the knowledge gained by the students and a competent student is the product.

5. **Improvement**

These judgments are made for improvement in the process and the product. Assessment is just like a bridge that is connecting behind as well as the future of the students.

Topic 3: Evaluation

Evaluation is process of making a value judgment against intended learning outcomes and behavior, to decide quality and extent of learning.

Evaluation is always related to your purpose, you aligned your purpose of teaching with what students achieved at the end, with their quality and quantity of learning

Let's take an example

In classroom situation, as a teacher, when you teach a chapter or unit to a class, first you made the objectives, either you will make it yourself as a teacher or you take it from curriculum document of the particular subject. Objectives are also written at the start of the chapter or book which shows that at the end of the unit what student will be able to do this, that is also referred as Student learning outcomes. So these SLOs can be checked by two aspects i. assessment ii. Evaluation. When you, as a teacher reflect on your teaching on daily basis that what you teach yesterday was a good way to teach or not, what i taught was the students need, did they understand what i teach, and then you can decide changing which things can cause the improvement in the learning process of students. This is ASSESSMENT. In the end of assessment, opinion is not about the individual, it is about the process from which the students or individuals are passing for the betterment of that process.

Evaluation is that when the learning process is complete and you want to see what are your targets or objectives and how much my students achieved those objectives , then tools are made and measures comes from that tell that how much your student learn and what is the quality of their learning.

Topic 4: Difference in measurement, assessment and evaluation

These terms are not different words for same concept but a process serving as prerequisite to each other and having unique purpose.

Every mechanism or process start with the measurement

In the field of education, measurement generate tools i.e. Test, Observation, Quiz, Checklist, Homework, Portfolios. They can give information about student learning. The information we got from the tool is *MEASUREMENT*

Now if that measurement is used for the process of making teaching learning process better than it is *ASSESSMENT*

e.g. if i want to decide that the procedure or way i adopted for student learning i.e. books, activities, field experience is good for their learning and they are according to the needs of student, then it is

ASSESSMENT

And if from these measure i decide that either their learning is getting better or not or how much student learned what i taught them and what is the quality or standard of that learning, then it is

EVALUATION

Assessment and Evaluation don't exist in hierarchy; they both are parallel and different in purpose. Measurement is the source to move towards assessment and evaluation because it provides base and evidence to quantify teaching learning process. The quantified number has no meaning until we do assessment or evaluation. Assessment purpose is to make teaching learning process better so that student learning improve and measurement purpose is to align the learning with purpose.

GENERAL PRINCIPLES FOR GUIDING ASSESSMENT AND EVALUATION**Topic 5: Guiding Principles of Assessment**

1. Existing Culture: Begin by acknowledging the existence of assessment throughout the institution in order to ensure that the assessment plan is grounded in the institutional culture.
2. Realistic Plan with Appropriate Investment of Resources: Plans for assessment at the program, school, and institutional levels should be realistic and supported by the appropriate investment of institutional resources.
3. Involvement of Faculty and Students: Academic leadership is necessary in order to gain the support and involvement of faculty members, staff, administrators, and students across the institution.
4. Clear Goals: Assessment activities should be focused by a set of clear statements of expected student learning (knowledge, skills, and competencies).
5. Appropriate Methods: Assessment should involve the systematic and thorough collection of direct and indirect evidence of student learning, at multiple points in time and in various situations, using a variety of qualitative and quantitative evaluation methods that are embedded in courses, programs, and overall institutional processes.
6. Useful Data: Data gained through assessment activities should be meaningful. They should be used, first, to enhance student learning at the institutional, program, and course levels; second, in institutional planning and resource allocation; and third, to evaluate periodically the assessment process itself for its comprehensiveness and efficacy.

Topic 6: Guiding Principles for Evaluators

While it is necessary that persons undertaking formal evaluation possess the necessary technical / research expertise, because of the range of methods they will be required to employ, there is a need for them to have well developed personal skills as well – and these should be seen as fundamental both to the evaluation project, and in respect of the person(s) appointed to lead/undertake the evaluation. Briefly, these are;

- 1) Systematic Inquiry: Evaluators need to explore the shortcomings and strengths of both the various evaluation questions and the approaches that might be used to answer these questions. They also need to communicate their methods with both clarity and sufficient detail to allow others to critique their work.

- 2) Competence: Evaluators need to demonstrate and ensure respect for diversity and ensure they have the necessary technical / professional skills required for an evaluation project
- 3) Integrity / Honesty: They should display honesty/integrity in their own behaviour as well as attempting to ensure the honesty and integrity of the entire evaluation process.
- 4) Respect for People: Evaluators must respect the security, dignity and self worth of respondents, programme participants, clients and other evaluation stakeholders
- 5) Responsibilities for General and Public Welfare: Evaluators articulate and take into account the diversity of general and public interests and values that may be related to the evaluation.

Topic no 7: Purposes for Assessment and Evaluation in Early Childhood Education

Why assess? Why evaluate?

Assessment is carried out for information on the outcomes of specific actions or programmes and evaluation provides information about their value. It is useful to explore some other reasons behind these processes.

Purpose of assessment: The purpose of assessment is to give useful information about children's learning and development to the adults providing the programme and to children and their families.

Purpose of evaluation: The purpose of evaluation is to make informed judgments about the quality and effectiveness of the programme. Evaluative procedures emphasise the quality of provision and make use of all the forms of assessment that can be carried out by both adults and children. Assessment of children's learning and development will be part of the information needed to evaluate the programme. In a book on the design and evaluation of school programs, Eisner (1985a) talks about the many functions of evaluation and singles out five as "especially important" (p192).

Eisner's five functions are:

1. To diagnose difficulties with the curriculum, in the teaching that is occurring or in the student's learning so that an educational "treatment" might be found;
2. To provide a feedback mechanism for curriculum revision and thus educational improvement. This function of evaluation is seen to "diminish(es) the tendency to use evaluation practices simply as a means of classifying students, rewarding them, or selecting the able from the rest" (p195); it also shifts the full responsibility for performance away from the student and closer to the school or educational setting. Eisner adds that "when student performance is viewed as an index of program effectiveness, the likelihood of curriculum improvement increases and a major contribution is made toward improving the quality of education" (p 196).
3. To compare programs, teaching and other aspects of the educational process to make available evidence that may be used in decision-making on educational policies;

4. To anticipate or identify educational needs; this is a form of needs assessment or needs analysis so that the existence of a need may be established and a proposal advanced about how the need may be met.

The purposes of assessment and evaluation could be summarized as follows:

1. To diagnose
2. To revise curricula
3. To compare
4. To anticipate educational needs
5. To determine if objectives have been achieved
6. To satisfy demands for accountability
7. To improve educational outcomes for children
8. To critique professional practice
9. To enhance professional practice
10. To value a project or a programme
11. To uncover the hidden curriculum.

TYPES OF ASSESSMENT PROCEDURE**Topic 8: Concept of Classroom Assessment**

The process of gathering, recording, interpreting, using and communicating information about a child's progress and achievement during the development of knowledge, concepts, skills and attitudes.

When we are teaching in a classroom, we are doing four things

- i. Developing students' knowledge
- ii. Improving their concepts
- iii. Teaching the skills
- iv. Making their attitudes.

And while doing so, we collect information about the development of these things, and then we record it, interpret it and use it to communicate about the learning progress of students.

This procedure is called classroom assessment

Topic 9: Classification of Assessment

Assessment can be classified in four ways

1. Nature of Assessment
2. Format of Assessment
3. Use in classroom instruction
4. Method of interpreting results

1. Nature of Assessment

- i. Maximum Performance Assessment
- ii. Typical Performance Assessment

2. Format of Assessment

- i. Fixed Choice Assessment
- ii. Complex Performance Assessment

3. Use in classroom instruction

- i. Placement Assessment
- ii. Formative Assessment
- iii. Diagnostic Assessment
- iv. Summative Assessment

4. Method of interpreting results

- i. Norm Referenced Assessment
- ii. Criterion Referenced Assessment

Topic 10: Types of Assessment

In this topic, Student will learn

1. Types of assessment by nature

2. Types of assessment by format

1. By Nature of Assessment

- i. Maximum Performance Assessment
- ii. Typical Performance Assessment

i. Maximum Performance Assessment

Maximum performance assessment determines what individual can do when performing at their best. E.g. assess student in an environment when they exhibit their best performance. Procedure of this type is concerned with how well individual perform when they are motivated to obtain as high score as possible. This type of assessment includes Aptitude tests and Achievement tests.

In Achievement test, student learn by themselves or we teach them and at the end we want to see that how much student learn against our target so in this situation we make a test from which we can determine their best abilities. It is designed to indicate the degree of success in some past learning activity.

Aptitude test, we measure through aptitude test when we want to predict the success in future learning activity e.g. it is used when we want to see the interest of student in a particular field like medicine, sport, teaching. We know that different abilities used for going in different professions, we make a test depending on these abilities and then try to assess, in what abilities the students perform well.

ii. Typical Performance Assessment

The second category is typical performance assessment determines what individual will do under natural conditions. This type of assessment includes attitude, Interest and personality inventories, observational techniques, peer appraisal. Here emphasis is on what students will do rather than what they can do.

Topic 11: By format of assessment

- i. Fixed Choice Assessment
- ii. Complex Performance Assessment

i. Fixed Choice Assessment

Fixed Choice Assessment is used to measure the skills of people efficiently (means measure more skills in less time) and for this we usually use fixed choice items i.e. Multiple choice question, matching exercise, fill in the blanks and true false. It is called fixed choice because the person who is attempting the paper does not need to write the answer, just need to choose the answer. From these, we can assess student abilities of lower level learning

Fixed Choice Assessment is used for efficient measurement of knowledge and skills. This type of assessment includes standardized multiple choice questions

ii. Complex Performance Assessment

Complex Performance assessment is used for measurement of performance in contexts and the problems valued in their own right. This includes hands on laboratory experiments, projects, essays, oral presentations.

E.g. if want to measure the student ability of writing an essay and this cannot be judged by fixed response items

USE OF ASSESSMENT IN CLASSROOM INSTRUCTION

In this session student will learn Classification of assessment in terms of its uses in classroom instruction

Use in classroom instruction

- i. Use of Placement Assessment
- ii. Use of Diagnostic Assessment
- iii. Formative Assessment
- iv. Summative assessment

Topic 12: Placement Assessment

Placement Assessment determines prerequisite skills, degree of mastery of course goals and mode of learning. Placement assessment is used when we want to assess student's prior knowledge so that we can decide what the level of student is. It is associated with student's entry level performance to know either student have a sufficient knowledge required for a particular course or not. Through placement assessment, teacher can be able to know that where student should be place according to their present knowledge or skills. It determines the level of student knowledge at the beginning of session and helps teacher plan the lesson accordingly. In the classroom, the teacher can use placement assessment to assess the level of students' knowledge and skills and then make lesson plans keeping in mind the level and need of students accordingly.

It also determines the interest and aptitude of student regarding a subject and helps in selecting correct path for future.

Examples

Readiness test: It is a test used to determine the students' knowledge or concept about a particular course of instruction or what is the level of students

Aptitude test: It is used for the admission in a particular program

Pretest: It is made according to the course objectives and determines the student present knowledge about them

Self- report inventories: Determines the student level by interviewing or discussion

Topic 13: Diagnostic Assessment

Diagnostic Assessment determines causes (intellectual physical, emotional environmental) of persistent learning difficulties. e.g. if you are having a headache, first you will try to cure it by yourself by taking a medicine and you got a relief but if you didn't get a relief by taking a medicine then either you change your medicine or you go to the physician or doctor. At first, doctor prescribed medicines, if you still have headache you again go to the doctor, then the doctor suggest you the tests i.e. blood test, urine test etc. and then finally by seeing the test report the doctors are able to recognize the reason or cause of headache. And when doctors know the root of your headache then he will prescribe you the medicine for that cause, this is diagnosis.

Diagnosis doesn't start first day, it is for the constant or continuous problems e.g. if a student continuously experiences failure in reading or mathematics or any other subject despite the use of prescribed alternative methods, then a diagnosis is indicated. Teachers try to find out what is the root of students' failure.

Topic 14: Formative Assessment

Formative Assessment determines learning progress, provides feedback to reinforce learning, and correct learning errors. When we assess student during classroom instruction with a purpose to have a feedback that how can we make our teacher learning process better, that is formative assessment. In this assessment, we are not assessing what students learnt or not rather we assess the process behind the students learning. The process behind the student learning includes teaching method, book, etc. If we make all these things according to the needs of students then learning will improve.

It is conducted during the academic session or teaching-learning process so that I can get a feedback about my way of teaching and how students are learning and decisions are made on the basis of results immediately. It is an ongoing process to modify teaching strategies on the basis of students' need.

It provides feedback to teachers

- . About weakness and strength of learning process
- . To modify their teaching practices
- . To improve teacher-learning process

It also helps students to reflect on their weaknesses and encourages them for their successful learning. (When we tell students that their problems are their way of learning rather than their intelligence, then we tell them how to change your way of learning to learn better. With this,

students can reflect on their learning process alone, and then what goes wrong with my learning process)

Formative assessment provides feedback to students who are struggling with specific content area or concept.

The main difference between formative and summative assessment is that the in formative assessment improvement is in the process of learning rather than to certify students

We use different tools for formative assessment and it includes teacher made tests, custom made tests from textbook publishers, observational techniques

Topic 15: Summative Assessment

Summative assessment comes at the end of the instructional session (course of unit). It is designed to measure the extend of achievement of intended learning outcomes. The primary utility of this type of assessment is to assign grades and certifying the level of mastery and expertise in certain subject. It is usually done through teacher made achievement tests or alternative assessment techniques like portfolio to summarize the overall performance of the student at the end of the session. It is not compulsory to done it at the end of the semester, in semester system there is midterm and final term in one semester, and these both are summative assessment. It usually compares the student learning either with other students learning (norm-referenced) or the standard for a grade level (Criterion-referenced). Summative assessment includes teacher made survey test, performance, rating scales, product scales.

Topic 16: Methods of Interpreting Results

- i. Norm-referenced Assessment
- ii. Criterion-referenced Assessment

i. Norm-referenced Assessment

Norm-referenced Assessment measures the students' performance according to relative position in some known group. E.g. ranks tenth in classroom group of 50 or top 5 students in a class.

Relative position means a point defined with reference to another position (where a student stands compared to other students)

Rather than reporting student's achievement it reports students standing among other students.

NRT is utilized to discriminate between a certain groups of students. It's never used for certification or issuing grades to students. Position of the student is generally represented by percentile scarce noting the percentage of students achieving same or low scarce in the test.

Examples of NRT are NTS or CSS exams. E.g. if you achieved 97% percentile on NTS test, it means there are 96% who scored lower than you.

Norm referenced test includes items with average difficulty and high discriminating power. This provides large spread of scores which makes it easy to declare the relative positions of students. Because the purpose of NRT is not to certify grades, so the test made for it must be of average difficulty means test items should not be very easy or very tough. If all the items are difficult then no student will be able to solve it and we are not able to discriminate who is good students. And if all the items are easy then even the low ability students can solve it then we are not able to discriminate it.

Norm referenced test includes standardized aptitude and achievement tests, teacher-made survey tests, interest inventories, adjustment inventories

Topic 17: Criterion-referenced Assessment

Criterion-referenced assessment describes student performance according to a specific domain of clearly defined learning tasks e.g. adds single-digit while numbers. In this you don't compare student performance with other students rather you compare the performance of all students with criteria (in our case that criteria are our learning outcomes). It is most commonly used in schools to report the achievement of learning outcomes against set goals rather than other students. It grades the students to pre-defined criteria and student's grades represent their mastery over content. Students with same level of expertise achieve same level of grades. A cut point is determined to distinguish between failed and successful students regardless of score of highest and lowest achiever. It consists of teacher-made tests, custom made tests from the test publishers and observational techniques.

ASSESSMENT, TESTING AND NATIONAL CURRICULUM

In this unit, students will learn about link between curriculum and assessment. For this purpose, we precede our discussion in reference to National Curriculum of Pakistan 2006.

Topic 18: Role of national curriculum in assessment

In national curriculums of Pakistan, learning of student is classified into four levels.

- Competency
- Standards
- Benchmarks
- Student learning outcome (SLOs)

Competency

It is a key learning area. For example algebra, arithmetic, geometry etc. in mathematics and vocabulary, grammar, composition etc. in English.

Standards

These define the competency by specifying broadly, the knowledge, skills and attitudes that students will acquire, should know and be able to do in a particular key learning area during twelve years of schooling.

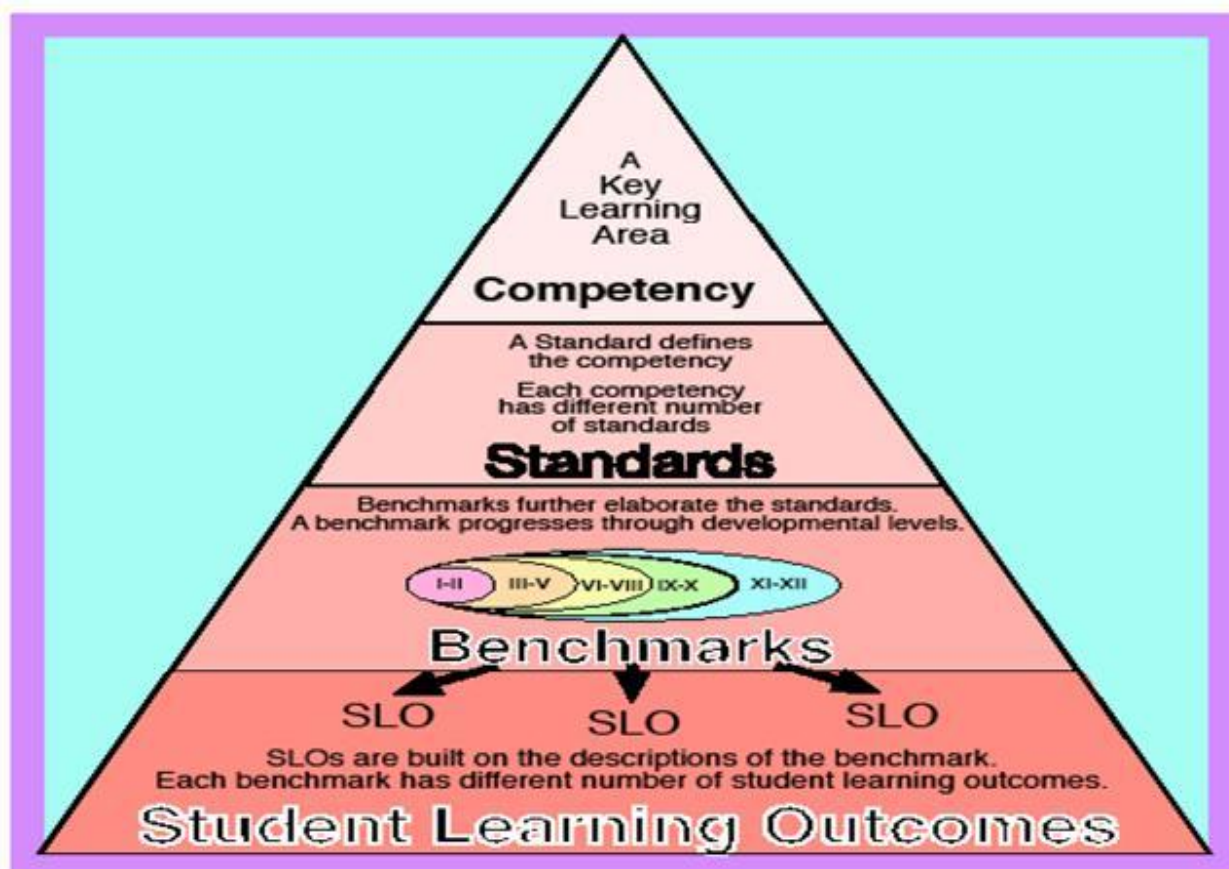
Benchmarks

The benchmarks further elaborate the standards, indicating what the students will accomplish at the end of each of the five developmental levels in order to meet the standard.

Student learning outcomes

These are built on the descriptions of the benchmarks and describe what students will accomplish at the end of each grade. It is the lowest level of hierarchy.

Topic 19: Connecting all four levels in curriculum



In the image above, SLOs are at the bottom which is the lowest level. All SLOs combined to make a benchmark and benchmarks convert into standards and then into competency.

Example:

Example is taken from curriculum of English subject.

Competency 1: Reading and thinking skills

Standard 1: All students will search for, discover and understand a variety of text types through tasks which require multiple reading and thinking strategies for comprehension, fluency and enjoyment.

Benchmark 1: use reading readiness strategies.

Student learning outcome:

1. Articulate, identify and differentiate between the sounds of individual letters, digraphs and trigraphs in initial and final positions in a word.
2. Identify paragraph as a graphical unit of expansion, $\frac{3}{4}$ know that words in a sentence join to make sense in relation to each other.

Topic 20: Modes of Assessment in Curriculum

Curriculum document provides specific guidelines for assessment.

Example:

6.1. The two forms of assessment recommended are:

6.1.1. periodic/formative assessment through homework, quizzes, class tests and group discussions.

6.1.2. end of term/ summative assessment through final examination.

Purpose of assessment and curriculum-English 2006

The assessment system for the present curriculum should include

- A clear statement of the specific purpose(s) for which the assessment is being carried out.
- A wide variety of assessment tools and techniques to measure students ability to use language effectively.
- Criteria to be used for determining performance levels for the SLOs for each grade level.
- Procedures for interpretation and use of assessment results to evaluate the learning outcomes.

Form of suitable assessment tools- English 2006

- MCQs
- Constructed response
 - o Restricted response
 - o Extended response
- Performance tasks

TAXONOMIES OF EDUCATIONAL OBJECTIVES AND ASSESSMENT**Topic 21: Taxonomies of Educational Objectives and Assessment**

In this session student will learn:

1. Concept and use of Taxonomies
2. Three popular Taxonomies

Every assessment, regardless of its purposes rests on three important pillars:

1. A model for how students present knowledge and develop competence in the subject domain
2. Tasks or situations that allow the examiner to observe the students' performance
3. Inferences from performance evidence about the quality of learning.

In developing a test to assess student learning, taxonomy provides a framework of categories with different hierarchical levels of outcomes

Popular Taxonomies

1. Bloom's taxonomy of educational objective
2. Structure of Observed Learning Outcomes (SOLO)
3. Depth of Knowledge (DOK)

Topic 22: Bloom's Taxonomy and SOLO Taxonomy

In this session students will learn

1. Levels of Structure of Observed Learning Outcomes (SOLO)
2. Levels of Depth of Knowledge (DOK)

3. Levels of Bloom's taxonomy of educational objective

Structure of Observed Learning Outcomes (SOLO)

The taxonomy of Structure of Observed Learning Outcomes (SOLO) was initially developed by Biggs and Collis in 1982, and then well described in Biggs and Tang in 2007. It carries five different levels of competency of learners

Levels of Structure of Observed Learning Outcomes (SOLO)

1. Pre-structural
2. Uni-structural
3. Multi-structural
4. Relational
5. Extended Abstract

Depth of Knowledge (DOK)

DOK (Depth of Knowledge) was presented by Webb in 1997, giving four levels of learning activities

Levels of Depth of Knowledge (DOK)

1. Recall
2. Skill/Concept
3. Strategic Thinking
4. Extended Thinking

Bloom's Taxonomy of Learning Objectives

Bloom's Taxonomy was presented by Benjamin Bloom in the 1956, consists of a framework with most common objectives of classroom instruction.

Bloom's Taxonomy of Learning Objectives

Those dealing in three different domains and further sub categories in these domains.

1. Cognitive
2. Affective
3. Psychomotor

Cognitive Domain

- i. Knowledge
- ii. Comprehension
- iii. Application
- iv. Analysis
- v. Synthesis
- vi. Evaluation

Affective Domain

- i. Receiving
- ii. Responding
- iii. Valuing
- iv. Organization
- v. Characterization

Psychomotor Domain

- i. Perception
- ii. Set
- iii. Guided Response
- iv. Mechanism
- v. Complex covert Response
- vi. Adaption
- vii. Origination

Topic 23: SOLO Taxonomy

In this topic student will learn

1. Levels of Structure of Observed Learning Outcomes (SOLO).
2. Indicative verbs for each level

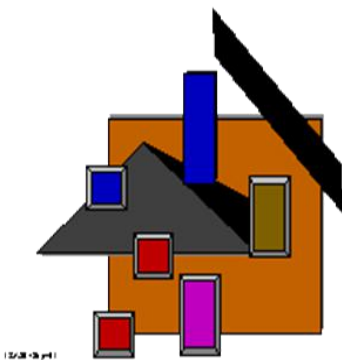
Levels of SOLO

1. Pre-structural
 2. Uni-Structural
 3. Multi-structural
 4. Relational
 5. Extended Abstract
1. Pre-structural

Students are simply able to acquire bits of unconnected information and respond to a question in meaningless way. Example of pre-structural level:

Question: What is your name?

Answer: What is your name?



2. Uni Structural

Student shows concrete understanding of the topic. But at this level is only able to respond one relevant element from the stimuli or item that is provided.

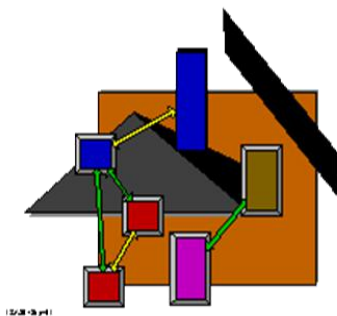
Indicative verbs: identify, memorize, do simple procedure



3. Multi- Structural

Student can understand several components but the understanding of each remains discreet. A number of connections are made but the significance of the whole is not determined. Ideas and concepts around an issue are disorganized and aren't related together.

Indicative verbs: enumerate, classify, describe, list, combine, do algorithms.



4. Relational

Student can indicate connection between facts and theory, action and purpose. Shows understanding of several components which are integrated conceptually showing understanding of how the parts contribute to the whole. Indicative verbs: compare/contrast, explain causes, integrate, analyze, relate, and apply.



5. Extended Abstract

Student at this level is able to think hypothetically and can synthesize a material logically. Student make connections not only with in the given subject area but understanding is transferable and generalizable to different areas. Indicative verbs: theorize, generalize, hypothesize, reflect, generate



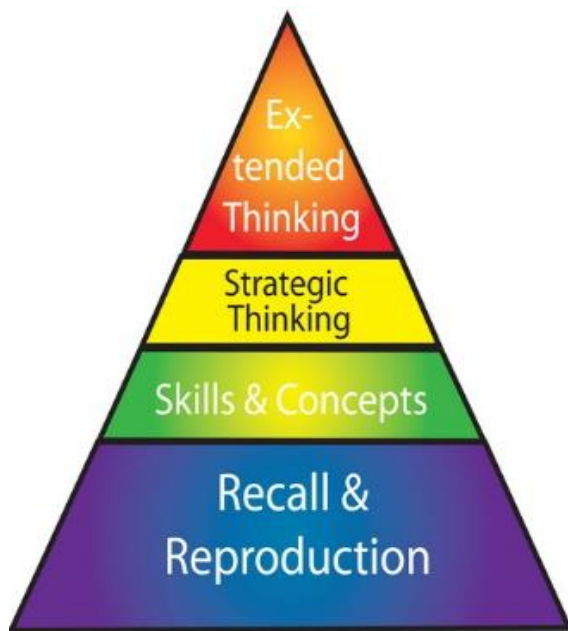
Topic 24: Depth of Knowledge

In this topic, Students will learn

1. Levels of DOK (Depth of Knowledge)
2. Key verbs for each level

Levels of DOK

1. Recall
2. Skill/concept
3. Strategic Thinking
4. Extended Thinking



DOK measures the degree to which the knowledge brought about from students on assessments is as complex as what students are expected to know and do as stated in the curriculum.

Levels of DOK (Depth of Knowledge)**Recall**

Recall of a fact, information, or procedure. The subject matter at this particular level usually involves working with facts, terms and/or properties of objects.

Key words: list, enlist, name, define etc.

Skill/Concept

It includes the engagement of some mental processing beyond recalling or reproducing a response. Use information or conceptual knowledge, two or more steps, not just recalling

Key words: Graph, separate, relate, contrast, narrate, compare etc.

Strategic Thinking

Items falling in this category demand a short-term use of higher order thinking processes, such as analysis and evaluation, to solve real-world problems with predictable outcomes.

Key words: Argue, critique, formulate

Extended Thinking

Learning outcomes to this level demand extended use of higher order thinking processes such as synthesis, reflection, assessment and adjustment of plans over time.

Key words: Create, Synthesize, Design and reflection.

BLOOM'S TAXONOMY OF LEARNING OBJECTIVES**Topic 25: Bloom's Taxonomy**

In this topic student will learn:

1. Bloom's taxonomy of educational objectives.
2. Old and revised taxonomy.
3. Key words for each level

Three Domains of Learning

There are three main domains of learning and all teachers should know about them and use them to construct lessons.

- Cognitive Domain
- Affective Domain
- Psychomotor Domain

1. Cognitive or Thinking Domain

In 2000-01 revisions to the cognitive taxonomy were spearheaded by one of Bloom's former students, Lorin Anderson, and Bloom's original partner in defining and publishing the cognitive domain, David Krathwohl. One of the major changes that occurred between the old and the newer updated version is that the two highest forms of cognition have been reversed.

Levels of Cognitive Domain

Old Cognitive Domain

Knowledge:

It is defined as the remembering of previously learned material. This may involve the recall of a wide range of facts, procedures principals and generals, the recall of procedures and the processes.

Sample Question: Define the 6 levels of Bloom's taxonomy of the cognitive domain.

Comprehension:

It is defined as the ability to grasp the meaning of the material. individual can make use of the content or idea being communicated without necessarily related it to other content and seeing its fullest implications. Sample Question: explain the purpose of Bloom's taxonomy of the cognitive domain.

Application:

It refers to the ability to use the previously learned material in new and concrete situations. The abstractions may be in the shape of universal ideas, rules of methods. Sample Question: write an instructional objective for each level of Bloom's taxonomy.

Topic 26: Bloom's Taxonomy (Continued)

In this topic student will learn:

1. Bloom's taxonomy of educational objectives.
2. Old and revised taxonomy.
3. Key words for each level

Analysis:

The breakdown of a concept into its constituents parts such that the relative hierarchy of the concept is made easy to understand or the relation between the parts of the concept is elaborated. Sample Question: compare and contrast the cognitive and affective domains.

Synthesis:

There is a collection of the constituents or parts of a concept so as to make a whole. This is a stage when an individual is working with the pieces and assorting them in such a way as to formulate a pattern or structure not clearly there before. Sample Question: Design a classification scheme for writing educational objectives that combines the cognitive, affective, and psychomotor domains.

Evaluation:

It is concerned with the ability to judge the value of the material for a given purpose. Judgments are made on the definite criteria. Sample Question: How far the different BISEs and universities are developing papers using Bloom's taxonomy? Support your answer with arguments.

Topic 27: Revised version of Bloom's Taxonomy

In this topic student will learn:

1. Old and revised taxonomy.
2. Key words for each level

Revised Cognitive Domains

Levels

Remembering:

Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.

Key verbs:

Choose, Define, Find, How, Label, List, Match, Name, Omit, Recall, Relate, Select, Show, Spell, Tell, What, When, Where, Which, Who, Why

Understanding:

Constructing meaning from different types of functions be they written or graphic messages, or activities.

Key verbs: Classify, Compare, Contrast, Demonstrate, Explain, Extend, Illustrate, Infer, Interpret, Outline, Relate, Rephrase, Show, Summarize, Translate

Applying:

Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.

Key verbs:, Apply, Build, Choose, Construct, Develop, Experiment with, Identify, Interview, Make use of, Model, Organize, Plan, Select, Solve, Utilize.

Analyzing:

Breaking materials or concepts into parts, determining how the parts relate to one another, or how the parts relate to an overall structure or purpose.

Key verbs: Analyze, Assume, Categorize, Classify, Compare, Conclusion, Contrast, Discover, Dissect, Distinguish, Divide, Examine, Function, Inference, Inspect

Evaluating:

Making judgments based on criteria and standards through checking and critiquing.

Key verbs: Agree, Appraise, Assess, Award, Choose, Compare, Conclude, Criteria, Criticize, Decide, Deduct, Defend, Determine, Disprove, Estimate

Creating:

Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.

Key verbs: Adapt, Build, Change, Choose, Combine, Compile, Compose, Construct, Create, Delete, Design, Develop, Discuss, Elaborate, Estimate, Formulate

These categories range from simple to complex and from concrete to abstract level of student's learning. It is assumed that the taxonomy represents a cumulative hierarchy, so that mastery of each simpler category is considered as prerequisite to mastery of the next, more complex one.

Comparison of Bloom, SOLO and DoK

A comparison of hierarchical division in three taxonomies of learning objectives

SOLO Taxonomy	Bloom's Taxonomy	DOK Taxonomy
Level 1: Pre-structural	Level 1 Knowledge	Level 1: REcall
Level 2: Uni-structural		
Level 3: Multi-structural	Level 2: Comprehension	Level 2: Skill/Concept
Level 4: Relational	Level 3: Application	Level 3 Strategic Thinking
Level 5: Extended Response	Level 4: Analysis Level 5: Synthesis Level 6: Evaluation	Level 4: Extended Thinking



INSTRUCTIONAL OBJECTIVES

In this session student will learn:

1. Instructional Objectives as Learning Outcome
2. General objectives
3. Specific objectives

Topic 28: Instructional Objectives as Learning Outcome

Instructional goals and objectives are stated in terms of actions to be taken

When viewing instructional objectives in terms of learning outcomes, we are concerned with products rather than process of learning

Sources for lists of Objectives

- Professional Associations standards
- State Content Standards
- Methods books
- Year books
- Encyclopedia of educational Research
- Curriculum Frameworks
- Test manuals

Criteria of selecting the final list of objectives

Prepare tentative list of instructionally relevant learning outcomes

Review the list for

1. Completeness

2. Appropriateness
3. Soundness
4. Feasibility

General Objectives

- Stating the general objectives is selecting the proper level of generality.
- Objective should be specific enough to provide the direction for instruction but not so specific that instruction is reduced to training
- Stating general objectives in general terms, we provide for the integration of specific facts and skills into complex response
- General statements give teachers freedom in selecting the method and materials of instruction

List of general objectives shows the desired level of generality

- Knows basic terminology
- Understands concepts
- Relates concepts to everyday observations
- Applies principles to new situations
- Interpret graphs
- Demonstrate scientific attitude

Steps for stating General Objectives

1. State each general objective as an intended learning outcome
2. Begin each general objective with a verb
3. State each general objective to include only one general learning outcome

4. State each general objective at the proper level of generality
5. Keep each general objective sufficiently free of course content so it can be used with various units of study
6. Minimize the overlap with other objectives

Topic 29: Specific Learning Outcomes

Each General objective must be defined by a sample of specific learning outcome to clarify how students can demonstrate that they have achieved general objective. Until the general objective are further defined in this manner they will not provide adequate direction for assessment

Steps for Stating Specific Outcomes

1. List beneath each general objective a representative sample of specific learning outcome that describes terminal performance students are expected to demonstrate
2. Begin each specific learning outcome with an action verb that specifies observable performance
3. Make sure that each specific learning outcome is relevant to the general objective it describes
4. Include enough SLOs to describe adequately the performances of students who have attained the objectives.
5. Keep the SLOs sufficiently free of course content so that the list can be used with various units of study
6. Consult reference materials for the specific components of those complex outcomes that are difficult to define
7. Add a third level of specificity to the list of outcomes, if needed

PURPOSE OF TESTING**Topic 30: Educational Decisions making****In this session student will learn:**

1. Use of testing for decision making
2. Types of educational decisions

Why Test?

In the classroom, decisions are constantly being made. Teachers face huge numbers of dilemmas every day. These decisions can be of following nature

Types of Educational Decisions

- Instructional
- Grading
- Diagnostic
- Selecting
- Placement
- Counseling and Guidance
- Program or Curriculum
- Administrative

These types of decisions are taken at different levels. Some are decided at Board/Administrative level while some are taken at school management level and other are taken in classrooms by teachers

Instructional Decisions

Instructional decisions are the nuts and bolts types of decisions made in classroom by teachers.

These are most frequently made decisions. Such decisions include deciding to

- Spend more time on specific units
- Regroup student in class for better management
- Instructional plans

Grading Decisions

Educational decisions based on grades are also made by the classroom teacher but much less frequently than instructional decisions. For most students grading decisions are most influential decision made about them

Diagnostic Decisions

Diagnostic decisions are those made about a student's strengths and weaknesses and the reasons behind them. Teachers make diagnostic decisions based on information yielded by an in-formal teacher made test

Decisions of diagnostic nature can also be made by the help of standardized tests (will be discussed in next session)

Selection Decisions

Selection decisions involves test data used in part for accepting or rejecting applicants for admission into a group, program, or institution

Placement Decisions

Placement decisions are made after an individual has been accepted in a program. They involve determining where in program someone is best suited to begin with.

Counseling and Guidance Decisions

Counseling and guidance decisions involve the use of test data to help recommend programs of study that are likely to be appropriate for the students

Program or curriculum decision

This type of decision is taken at policy level. Where it is decided if a lesson, unit or subject will continue or abandoned for next academic session according to the national objectives of education.

Administrative Decisions

Administrative policy decisions may be made at school, district, state or national level.

Based on measurement data. This includes financial decisions of schools

Topic 31: Types of test

In this session student will learn:

- Types of written tests

How to Measure

In classroom assessment different forms of assessments are utilized. Each form of test has its own benefits and disadvantages. Most common type of assessment used in classrooms is written assessment

Types of Written Tests

- Verbal
- Non-verbal
- Objective
- Subjective
- Teacher Made
- Standardized
- Power
- Speed

- Developmental Screening Test
- Readiness Test

Verbal

Emphasize reading, writing, or speaking. Most tests in education are verbal tests.

Non-verbal

Does not require reading, writing or speaking ability, tests composed of numerals or drawings is example.

Objective

Refers to scoring of tests when two or more scorers can easily agree on whether the answer is correct or incorrect, the test is objective one. True false, multiple choice and matching tests are example

Subjective

Also refers to scoring. When it is difficult for two scorers to agree on whether an item is correct or incorrect, the test is a subjective one. Essay tests are the example.

Teacher Made

Constructed solely by teacher only to be used in his/her own classroom. This type of test is custom designed according to need and issues related to specific class

Standardized

Test constructed by measurement experts over a period of years. They are designed to measure broad national objectives and have a uniform set of instructions that are adhered to during each administration

Most also have tables of norms, to which a student performance may be compared to determine where the student stands in relation to a national sample of students at same level of age or grade

Power

Tests with liberal time limits that allow each student to attempt each item. Items tend to be difficult.

Speed

Tests with time limits so strict that no one is expected to complete all items. Items tend to be easy.

Developmental Screening Test

Developmental screening has great potential for improving the lives of young children. As a brief assessment procedure designed to identify children who should receive more intensive diagnosis or assessment, screening is designed to help children who are at-risk for developmental problems, handicapping conditions, and school failure to receive ameliorative intervention services as early as possible. Screening provides a quick snapshot of a child's health and developmental status and indicates whether further evaluation is needed to identify potential difficulties that might necessitate interventions or special education services. Important considerations regarding developmental screenings that early childhood practitioners should be aware of include:

- Screenings are designed to be brief (30 minutes or less).
- Screenings cannot capture the full range of development, skill, or capacity among children. Because screenings are designed to identify risk or potential developmental issues, they tend to focus on distinguishing developmental skills and abilities in the lower range of performance and are not useful for capturing skills and abilities in the higher range of performance.
- Screening only indicates the possible presence of developmental delay or difference and cannot definitively identify or describe the nature or extent of a disability.
- Screening must be followed by a more comprehensive and formal evaluation process in order to confirm or disconfirm any red flags raised by the screening procedure.

Readiness Test

Readiness test: It is a test used to determine the students' knowledge or concept about a particular course of instruction or what is the level of students.

Topic 32: Norm- Referenced Assessment (NRT)

In this session student will learn:

1. Characteristics of norm-referenced assessment
2. Questions included in NRT

Why Test?

General purpose of assessment is to gather information to make better and more informed decision. The utility of that information is what differentiate between types of assessments. In earlier session classification of assessment by method of interpreting results was discussed. This session will further unpack the complexity of norm and criterion referenced assessment

NRT

Type of test which tells us where a student stands compared to other students. It helps determining a student's place or rank among a group of similar students. Such kind of test is called norm-referenced test

Dimensions

- It provides estimate of ability in a variety of skills in much shorter time.
- NRT tend to be general. It measures variety of skills at same time but fails to measure them thoroughly.
- It's hard to make decisions regarding the mastery of student's skill in subject.

It provides estimate of ability in a variety of skills in much shorter time. NRT are much difficult for students to solve. On average only 50% students are able to get an item right in a test.

Topic 33: Criterion Referenced Assessment

In this session student will learn:

1. Characteristics of Criterion-referenced assessment
2. Questions included in CRT

A second type of test tells us about student's level of proficiency in or mastery of some skill or set of skills. This is achieved by comparing a student's performance to a standard mastery called a criterion.

Test that yields such information is called Criterion Referenced Test

Dimensions

- CRT tends to be specific. It measures particular set of skill at one time and focus on level of achievement of that skill. CRT gives clear picture regarding the mastery of student's skill in subject.
- It measures skill more thoroughly so naturally it takes more time comparing to NRT in measuring the mastery of said skill
- Items included in CRT are relatively easier. Around 80% of the students are expected to respond item correctly in the test
- CRT compares students' performance to standards indicative of mastery.
- Breadth of content sampled is narrow and covers very few objectives

Topic 34: Characteristics of Criterion Referenced Assessment

In this session student will learn:

1. Characteristics of Criterion-referenced assessment
2. Questions included in CRT

Dimensions

- Sampled content in CRT is much more comprehensive, usually three or more items are used to cover single objective.
- The meaning of the score does not depend upon on comparison with other scores.
- It flows directly from the connection between the items and the criterion.
- Items are chosen to reflect the criterion behavior. Emphasis is placed upon the domain of relevant responses.

- Number succeeding or failing or range of acceptable performance used.
- Example: 90% proficiency achieved, or 80% class reached 90% proficiency.

Topic 35: Difference between NRT and CRT

In this session student will learn:

1. Factors differentiating items of CRT and NRT

Basis of comparison

- Comparison targets
- Selection of items
- Meaning of success
- Average item difficulty
- Score distribution
- Reported scores

Comparison targets

In CRT, the examinee's performance is compared to an external standard of competence. While in NRT, examinee's performance is typically compared to that of other examinees.

Selection of items

Items included in CRT are of specific nature and designed for the student skilled in particular subject. In NRT items are of general knowledge nature. Student should be able to answer it but superficial knowledge is sufficient to respond the item correctly.

Meaning of success

In CRT, an examinee is classified as a master or non-master. There is no limit to the number of 'pass' or 'fail'. In NRT, examinee's opportunity for success is relative to the performance of the other individuals who take the test.

Average item difficulty

In CRT, the average item difficulty is fairly high. Examinees are expected to show mastery. In NRT, the average item difficulty is lower. Tests are able to spread out the examinees' and provide a reliable ranking.

Score Distributions

In CRT, a plot of the resulting score distribution will show most of the scores clustering near the high end of the score scale. In NRT, broader spread of scores is expected, with a few examinees earning very low or high scores and many earning medium scores.

Reported Scores

In CRT, classification of the examinee as master/non-master or pass/fail. In NRT, percentile ranks or scale scores are frequently used.

ASSESSMENT BY USE IN CLASSROOM INSTRUCTION**Topic 36: Formative Assessment II**

In this session student will learn:

1. Concept of Formative assessment
2. Types of formative assessment

In earlier session classification of assessment by use in classroom instruction was discussed. This session will further unpack the complexity of norm and criterion referenced assessment.

Formative Assessment

Formative assessment provides feedback and information during the instructional process, while learning is taking place, and while learning is occurring. Formative assessment measures student progress but it can also assess your own progress as an instructor.

Topic 37: Types of Formative Assessment

- Observations during in-class activities; of student's non-verbal feedback during lecture.
- Homework exercises as review for exams and class discussions)
- Reflections journals that are reviewed periodically during the semester
- Question and answer sessions, both formal (planned) and informal (spontaneous)
- Conferences between the instructor and student at various points in the semester
- In-class activities where students informally present their results
- Student feedback collected by periodically answering specific question about the instruction and their self-evaluation of performance and progress

Topic 38: Functions of Formative Assessment

In this session student will learn:

1. Functions of Formative assessment.

Functions of Formative Assessment

1. Focus of measurement in formative assessment is predefined segment of instruction.
2. Limited sample of learning tasks are addressed.
3. The difficulty of item varies with each segment of instruction.
4. Formative assessment is conducted periodically during the instructional process.
5. Results of formative assessment are used to improve and direct learning through ongoing feedback.

Topic 39: Summative Assessment II

In this session student will learn:

1. Concept of summative assessment
2. Types of summative assessment

Summative Assessment

Summative assessment takes place after the learning has been completed and provides information and feedback that sums up the teaching and learning process. Typically, no more formal learning is taking place at this stage, other than incidental learning which might take place through the completion of projects and assignments.

Summative assessment is more product-oriented and assesses the final product, whereas formative assessment focuses on the process toward completing the product. Once the project is completed, no further revisions can be made.

If, students are allowed to make revisions, the assessment becomes formative.

Topic 40: Types of Summative Assessment

- Examinations (major, high-stakes exams)
- Final examination (a truly summative assessment)
- Term papers (drafts submitted during the semester would be a formative assessment)
- Projects (project phases submitted at various completion points could be formatively assessed)
- Portfolios (could also be assessed during its development as a formative assessment)
- Performances

Topic 41: Functions of Summative Assessment

In this session student will learn:

1. Functions of summative assessment.

Functions of Summative Assessment

1. Focus of measurement in summative assessment is on course or unit objectives.
2. Broad sample of all objectives is used in summative assessment.
3. This type of assessment uses wide range of difficulty while selecting items for the test.
4. Summative assessment is done at the end of the unit or the course
5. Most important functions of summative assessment is to assign grade, certification of accomplishment and evaluation of teaching

TABLE OF SPECIFICATION**Topic 42: Table of specification (video 28)**

In this session student will learn:

1. Concept of two way table of specification
2. Two way table of specification

Table of specification

One of the tools used by teachers to develop a blueprint for the test is called “Table of Specification” in other words Table of Specification is a technical name for the blue print of test. It is the first formal step to develop a test.

Concept of Table of Specification

- It helps a teacher in allotting the questions to different content areas and Bloom’s learning categories in a systematic manner.
- The blueprint is meant to insure content validity. Content validity is the most important factor in constructing an achievement test. (will be discussed in later unit)
- A unit test or comprehensive exam is based on several lessons and/or chapters in a book supposedly reflecting a balance between content areas and learning levels (objectives).

Topic 43: Two way Table of Specification

A Table of Specifications consists of a two-way chart or grid relating instructional objectives to the instructional content.

Table of specification performs two important functions

1. Ensures the balance and proper emphasis across all content areas covered by teacher
2. It ensures the inclusion of items at each level of the cognitive domain of Bloom's Taxonomy.

Learning objectives	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Weightage %age
1							
2							
3							
4							
5							

Topic 44: Concept of table of specification (video 29)

It helps a teacher in allotting the questions to different content areas and Bloom's learning categories in a systematic manner.

Learning objectives	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Weightage %age
1							
2							
3							
4							
5							

Topic 45: Elements and Appropriateness in Table of Specification (video 30)

In this session student will learn:

1. Elements in table of specification
2. Appropriateness of Table of Specification.

Elements in table of specification

Carey (1988) listed six major elements that should be attended to in developing a Table of Specifications for a comprehensive end of unit exam: 

1. Balance among the goals selected for the exam (weighing objectives)
2. Balance among the levels of learning (higher order and lower order)
3. The test format (objective and subjective)
4. The total number of items
5. The number of test items for each goal and level of learning
6. The enabling skills to be selected from each goal framework.

A Table of Specifications incorporating these six elements will result in a "comprehensive posttest that represents each unit and is balanced by goals and levels of learning"

Topic 46: Checklist for appropriateness of table of specification

1. Are the Specifications in harmony with the purpose of the test?
2. Do the specifications indicate the nature and limits of the achievement domain?
3. Do the specifications indicate the types of learning outcomes to be measured?
4. Do the specifications indicate the sample of learning outcomes to be measured?
5. Is the number of test items indicated for the total test and for each subdivision?
6. Are the types of items to be used appropriate for the outcomes to be measured?

7. Is the difficulty of the items appropriate for the types of interpretation to be made?
8. Is the distribution of items adequate for the types of interpretation to be made?
9. If sample items are included, do they illustrate the desired attributes.
10. Do the specifications, as a whole, indicate a representative sample of instructionally relevant tasks that fits the used to be made of the results?

Topic 47: Balance among Learning Objectives and their Weight in table of specification

In developing a test blueprint first of all it is necessary to select some learning. Objectives and among this list of learning objectives some objectives are more important in sense that more time of instruction is spent on them while some other are less important in terms of time spent on them in classroom so in developing table of specification balance among these learning objectives is important, for this purpose we need to weigh the learning objectives for calculating their relative weightage in test.

Step 1: Instruction Time

To do the calculations for the instruction time for columns of the table of specifications the teacher must use the following formulas for each objective in the table.

Time in class spent on objective (min) / total time for the instruction being examined (min) Percentage of instruction time

$$\text{Percentage of instruction time} = \frac{\text{time spent on objective, content, theme (min)}}{\text{Total time for the instruction being examined (min)}}$$

$$\text{Percentage of instruction time} = \frac{250}{1000}$$

$$\text{Percentage of instruction time} = 25\%$$

Step 2: Examine value

Then the instructor should look at the number of test items/score to be allocated to objective/content/theme 1.

Let us assume total marks of there are 100. Then 25 marks should be allocated to questions related to objective/content/theme 1.

Step 3

Percent of instruction time = Percent of examination value (within ± 2 percent, if not, redo test)

$$25 \pm 2 = 25 \pm 2$$

It can be a bit tricky if the total marks of the test are 50. Then 25% of 50 will be 12.5 marks. Point total of questions for objective / total points * on examination = % of examination value

Topic 48: Balance among the Levels of Learning Objectives in Table of Specification

In this session student will learn:

1. Practical example to develop table of specification

We have learnt to give weightage to the content area in a table of specification. Now we look at an example to develop table of specification practically. Following is the table of specification comprised of topics to be cover in test and their weightage that represent percentage of marks for each topic.

Topics/Level	Knowledge	Comprehension	Application	Marks
Pakistan Movement Time: $(100/500)*100 = 20\%$				
Geography of Pakistan Time: $(150/500)*100 = 30\%$				
Climate Change Time: $(150/500)*100 = 20\%$				
Industries Time: $(50/500)*100 = 10\%$				
Economy Time: $(50/500)*100 = 10\%$				
Total (Time: 500/Marks: 50)				

Let's consider that we have to develop a test of 50 marks according to the above discussed table of specification then distribution of marks for each topic is as under.

Topics/Level	Knowledge	Comprehension	Application	Marks
Pakistan Movement Time: $(100/500)*100 = 20\%$				10 (20%)
Geography of Pakistan Time: $(150/500)*100 = 30\%$				15 (30%)
Climate Change Time: $(150/500)*100 = 20\%$				15 (30%)
Industries Time: $(50/500)*100 = 10\%$				5 (10%)
Economy Time: $(50/500)*100 = 10\%$				5 (10%)
Total (Time: 500/Marks: 50)				50 (100%)

Then we have to consider the importance of each topic for cognitive level of questions according to Bloom's Taxonomy.

Topics/Level	Knowledge	Comprehension	Application	Marks
Pakistan Movement Time: $(100/500)*100 = 20\%$	5 (50%)	2 (20%)	3 (30%)	10 (20%)
Geography of Pakistan Time: $(150/500)*100 = 30\%$	2 (10%)	6 (40%)	7 (50%)	15 (30%)
Climate Change Time: $(150/500)*100 = 30\%$		7 (50%)	8 (50%)	15 (30%)
Industries Time: $(50/500)*100 = 10\%$	1 (10%)	1 (20%)	3 (70%)	5 (10%)
Economy Time: $(50/500)*100 = 10\%$	1 (20%)	1 (20%)	3 (60%)	5 (10%)
Total (Time: 500/Marks: 50)	9 (18%)	17 (34%)	24 (48%)	50 (100%)

SELECTION OF TEST**Topic 49: Selecting pre-designed**

In this session student will learn:

1. Selection of pre-designed test

Selecting Pre-designed test

Published test, supplement and complement informal classroom tests, and aid in many instructional decisions.

Published test are designed and conducted in such a manner that each and every characteristic is pre planned and known.

There are many published tests available for school use. The two most value to the instructional program are:

1. Achievement tests
2. Aptitude tests

There are hundreds of tests available for each type. Selecting the most appropriate one is important task. In some cases published tests are used by teachers. But more frequently these are used by provincial or national testing programs.

In classrooms most used published tests are:

1. Achievement tests
2. Reading test

Published tests commonly used by provincial or national testing programs are:

1. Aptitude tests
2. Readiness tests
3. Placement tests

Topic 50: Standards for selecting appropriate test

In this session student will learn:

1. Standards for selecting appropriate test

Standards for selecting appropriate test

Test users should select tests that meet the purpose for which they are to be used and that are appropriate for intended population.

1. First define the purpose for testing and the population to be tested and select the test accordingly.
2. Investigate the potentially useful sources of information, in addition to the test scores, to validate the information provided by tests.
3. Read the materials provided by test developers and avoid using tests for which unclear or incomplete information is provided.
4. Become familiar with how and when test was developed and tried out.

Topic 51: Standards for selecting appropriate test (Continue)

In this session student will learn:

1. Standards for selecting appropriate test

Standards for selecting appropriate test

Test users should select tests that meet the purpose for which they are to be used and that are appropriate for intended population.

5. Read independent evaluations of a test and of possible alternative measures.
6. Examine specimen sets, disclosed tests or sample questions directions, answer sheets, manuals and score reports before selecting the tests.
7. Select and use only those tests for which the skills needed to administer the test and interpret scores correctly are available.

Topic 52: Fairness in selecting appropriate tests

In this session student will learn:

1. Fairness in selecting appropriate tests

Fairness in selecting appropriate tests

1. Evaluate the procedures used by test developers to avoid potentially insensitive content or language

2. Review the performance of test takers of different races, gender, and ethnic groups when sample of sufficient size are available.
3. Evaluate the extent to which the performance differences may have been caused by inappropriate characteristics of test.
4. Use appropriately modified forms of tests or administration procedures for test takers with handicapping conditions.

CHARACTERISTICS OF GOOD TEST**Topic 53: Characteristics of Good Test**

In this session student will learn:

2. Characteristics of good test

We discussed different types of assessment or how the results are to be used, all assessments should possess certain characteristics. The most essential of these are: 

- Validity
- Reliability
- Usability

Validity

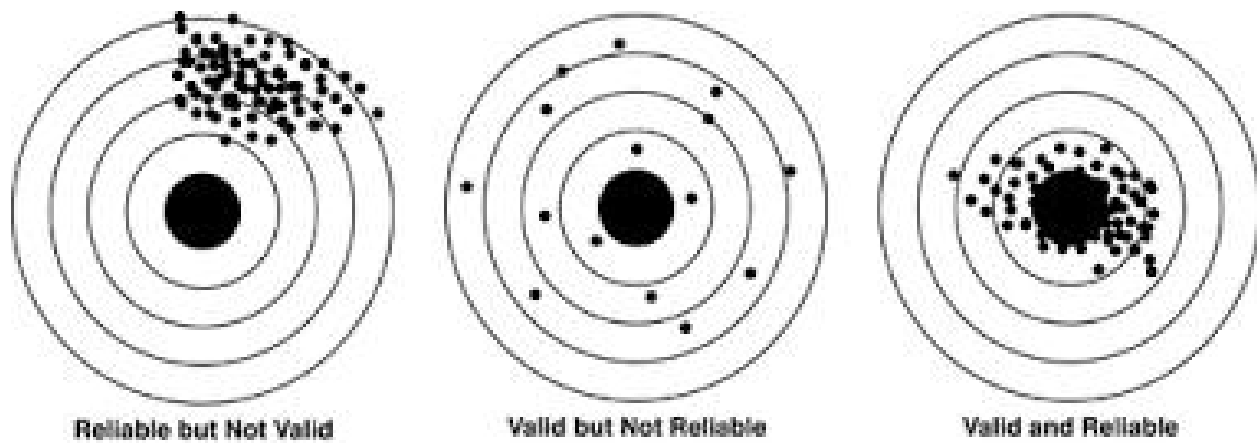
Validity is an evaluation of adequacy and appropriateness of the interpretation and uses of results. It determines if a test is measuring what it intended to measure.

Reliability

Reliability refers to the consistency of assessment results.

Reliability vs Validity

Reliability of measurement is needed to obtain the valid results, but we can have reliability without validity. Reliability is necessity but not sufficient condition for validity.



Usability

In addition to validity and reliability, an assessment procedure must meet certain practical requirement which includes feasibility, administration environment and availability of results for decision makers.

Topic 54: Nature of validity

In this session student will learn:

1. Nature of validity.

Following are different points that describe the nature of validity.

1. Appropriateness of the interpretation of the results

Validity is referred as “validity of test” but it is in fact validity of the interpretation and use to be made of the results.

2. Validity is matter of degree

It does not exist on all or none basis. It is best considered in term of categories that specify degree, such as high, moderate or low validity

3. Validity is specific to some particular use or interpretation

No assessment is valid for all purposes. An arithmetic test may have high degree of validity for computational skill and low degree for arithmetical reasoning

4. Validity is a unitary concept

Validity does not have different types. It is viewed as a unitary concept based on different kind of evidences

5. Validity involves a overall evaluative judgment

It requires an evaluation in terms of the consequences of interpretations and uses of assessment results

Topic 55: Evidences of validity: Content validity

In this session student will learn:

1. Evidences of validity
2. Concept of content validity
3. Procedure to find content validity
4. Method of ensuring content validity.

Three Evidences of Validity

Content

Construct

Criterion

Meaning

How well the sample of assessment tasks represents the domain of the tasks to be measured.

Procedure

It compares the assessment tasks to the specifications describing the task domain under consideration

Method

1. Classroom instruction determines which intended learning outcomes (objectives) are to be achieved by students
2. Achievement domain specifies and delimits a set of instructionally relevant learning tasks to be measured by an assessment
3. Instructional and assessment priorities specifies the relative importance of learning objectives to be assessed (Table of specification)

Topic 56: Evidences of validity: Construct validity

In this session student will learn:

1. Concept of construct validity
2. Procedure to find construct validity
3. Methods to ensure construct validity

Meaning

How well a test measures up to its claims. A test designed to measure *depression* must only measure that particular construct, not closely related ideals such as *anxiety* or *stress*.

Procedure

Develop a test framework;

1. Defining construct,
2. Identifying sub-constructs,
3. Listing indicators of each sub-construct
4. Writing test items for each indicator

Construct: Essay Writing

Sub-construct	Meaning/Scope	Indicators
Introduction Paragraph	It introduces the main idea, captures the interest of reader and tells why topic is important.	1. Single sentence called the thesis statement is written 2. Background information about your topic provided 3. Definitions of important terms written
Supporting Paragraphs	Supporting paragraphs make up the main body of your essay	1. List the points about main idea of essay. 2. Write separate paragraph for each supporting point. 3. Develop each supporting point with facts, details, and examples.
Summary Paragraph	Concluding paragraph comes after you have finished developing your ideas.	1. Restate the strongest points of 2. Restate the main idea 3. Give your personal opinion or suggest a plan for action.

Method

There are two methods to confirm construct validity of a test.

1. Expert judgment

There are experts of the field. For above example, people who are expert in essay writing will be considered to assess the construct validity of the table and table will be revised under their guidance.

2. Factor analysis

In this, we group the questions by keeping in view the responses of respondents on them.

EVIDENCES OF VALIDITY (CONTINUE)**Topic 57: Criterion validity**

In this session student will learn:

1. Concept of criterion validity
2. Procedure to find criterion validity
3. Methods to ensure criterion validity

Meaning

Demonstrates the degree of accuracy of a test by comparing it with another test, measure or procedure which has been demonstrated to be valid.

Concurrent validity

This approach allows one to show the test is valid by comparing it with an already valid test

Predictive

It involves testing a group of subjects for a certain construct, and then comparing them with results obtained at some point in the future

Procedure

Compare assessment results with another measure of performance obtained at a later date (for prediction) or with another measure of performance obtained concurrently (for estimating present status)

Method

The degree of relationship can be described more precisely by statistically correlating the two sets of scores. The resulting *correlation coefficient* provides numerical summary of relationship

Topic 58: Evidences of validity: Consequence validity

In this session student will learn:

1. Concept of consequence validity
2. Procedure to find consequence validity
3. Methods to ensure consequence validity

Meaning

How well use of assessment results accomplishes intend purposes and avoids unintended effects

Procedure

Evaluate the effects of the use of assessment results on teachers and students. Both, the intended positive effects (e.g., increased learning) and possible unintended negative effects (e.g., dropout of school) need to be evaluated

Considerations

- Does the assessment artificially constrain the focus of student's study
- Does the assessment encourage or discourage exploration and creative modes of expression

Topic 59: Factors in Test or Assessment Itself

- Unclear directions
- Reading vocabulary and sentence structure too difficult
- Ambiguity
- Inadequate time limits (construct irrelevant variance)
- Overemphasis of easy to access aspects of domain at the expense of important, but hard to access aspects
- Test items inappropriate for the outcomes being measured
- Poorly constructed test items

- Test too short
- Improper arrangement of items
- Identifiable pattern of answers

NATURE OF RELIABILITY**Topic 60: Nature of reliability**

In this session student will learn:

1. Nature of reliability.

Reliability refers to the consistency of measurement

1. Reliability refers to the results obtained with an assessment instrument and not to the instrument itself.
2. An estimate of reliability always refers to particular type of consistency (stability, equivalence, internal consistency)
3. Reliability is necessary but not sufficient condition for validity.
4. Reliability is primarily statistical (range +1 and -1).

Topic 61: Method of estimating reliability

In this session student will learn:

1. Method of estimating reliability

Characteristics

1. **Stability:**

Consistency over period of time

2. **Equivalence:**

Over different forms of assessment

3. **Internal consistency:**

Within the assessment itself

Determining Reliability by Correlation Methods

In determining reliability, it would be *desirable* to obtain two sets of measures *under identical conditions* and then to compare the results.

The reliability coefficient resulting from each method must be interpreted according to type of consistency being investigated

Method to Estimate Reliability

- Test-Retest (stability)
- Equivalent Forms (equivalence)
- Test- Retest with Equivalent Forms (stability and equivalence)
- Split Half (Internal Consistency)
- Kuder- Richardson (Internal Consistency)
- Cronbach Alpha (Internal Consistency)
- Inter-rater Reliability (consistency of rating)

Topic 62: Method of estimating reliability: Test-retest

In this session student will learn:

1. Test-retest method

Test- Retest Method

- *Test-Retest* method is a measure of stability
- It gives the same test twice to the same group with any time interval between tests, Time interval can range from several minutes to the several years

Test- Retest			
September 25		October 15	
Form A		Form A	
1. Item a	yes	2. Item a	yes
2. Item b	no	2. Item b	no
3. Item c	yes	3. Item c	yes

Time interval is key point in this type 

- Short interval will provide inflated coefficient of reliability
- Very long interval will influence results by instability and actual changes in students over time.

Topic 63: Method of estimating reliability: Equivalent form Method

In this session student will learn:

1. Equivalent Forms method
2. Test- Retest with Equivalent Forms

Equivalent Forms method

- Equivalent Forms method is measure of equivalence
- It gives two forms of the test to the same group in close succession

September 25		September 25	
Form A		Form B	
1. Item a	yes	2. Item d	yes
2. Item b	yes	2. Item e	yes
3. Item c	No	3. Item f	No

Test- Retest with Equivalent Forms

- Test- Retest with Equivalent Forms is measure of stability and equivalence
- It gives two forms of the test to the same group with increased interval between forms

Equivalent Forms method	
September 25	September 25
Form A	Form B
1. Item a	2. Item a
2. Item b	2. Item b
3. Item c	3. Item c
Score = 82	Score= 78
Test- Retest with Equivalent Forms	
September 25	October 15
Form A	Form B
1. Item a	2. Item a
2. Item b	2. Item b
3. Item c	3. Item c
Score = 82	Score= 74

METHOD OF ESTIMATING RELIABILITY (CONTINUE)**Topic 64: Method of estimating reliability: Split Half Method**

In this session student will learn:

1. Split Half Method**Split Half Method**

- Split Half Method is measure of internal consistency
- It gives test once. Score two equivalent halves of test, correct correlation between halves to fit whole test by spearman –brown formula.

Split Half Method		
Sum number of odd items correct	Sum number of even items correct	September 25
Item 1	Item 2	1. Item 1
Item 3	Item 4	2. Item 2
Item 5	Item 6	3. Item 3
.	.	4. Item 4
.	.	5. Item 5
.	.	6. Item 6
.	.	
Odd	Even	
Score = 40	Score= 42	Total Score=82

Split Half Reliabilities tend to be higher than equivalent form reliabilities because split half method is based on the administration of single assessment

Topic 65: Method of estimating reliability: Kuder-Richardson Method

In this session student will learn:

1. Kuder- Richardson methods and Coefficient Alpha
2. Inter-Rater Method

Kuder- Richardson methods and Coefficient Alpha

- Kuder- Richardson methods and Coefficient Alpha is also measure of internal consistency.
- It gives test once. Score total test and apply Kuder- Richardson

As with the split half method, these formulas provide an index of internal consistency but do not require splitting the assessment in half for scoring purposes

One formula KR20 is applicable only when student responses are scored dichotomously (0 or 1). It is most useful with traditional test items scored correct or incorrect

The generalization of KR20 for assessments that have more than dichotomous, right-wrong scores is called Coefficient Alpha

Topic 66: Inter-Rater Method

- Inter-Rater Method is measure of consistency of ratings
- It gives a set of students responses requiring judgmental scoring to two or more raters and have them independently score the responses

ALTERNATE ASSESSMENT TOOLS**Topic 67: Anecdotal records**

In this session student will learn:

1. Types of assessment tools
2. Anecdotal Record

Many outcomes in the cognitive domain, such as those pertaining to knowledge, understanding, and thinking skills, can be measured by paper pencil tests. But there are still many learning outcomes that require informal observation of natural interactions.

Types of assessment tools

Learning outcomes aspects of development can generally be assessed by

1. Observing students as they perform and describing or judging that behaviors (Anecdotal record).
2. Asking their peers about them and assessing social relationships (Peer appraisal).
3. Questioning them directly and assessing expressed interests (Self-appraisal).
4. Measuring progress by recorded work (portfolio).

Anecdotal records

Impressions gained through observation are apt to provide an incomplete and biased picture, however unless we keep an accurate record of our observations. Method to do so is called anecdotal records.

Anecdotal records are factual descriptions of meaning incidents and events that the teacher observes.

Topic 68: Effective use of Anecdotal Records

In this session student will learn:

1. Effective use of Anecdotal Record

Effective use of Anecdotal Records

One should keep in mind the following points to use anecdotal records effectively. 

1. Determine in advance what to observe but be alert of unusual behavior.
2. Analyze observational records for possible sources of bias.
3. Observe and record enough of the situation to make behavior meaningful.
4. Make record of the incident as soon after the observation is possible.
5. Limit each anecdote to a brief description of a single incident.
6. Keep the factual description of the incident and your interpretation of it separate.
7. Record both positive and negative behavioral incidents.
8. Collect a number of anecdotes on a student before drawing inferences concerning typical behavior.
9. Obtain practice in writing anecdotal records.

Topic 69: Advantages of Anecdotal Records

In this session student will learn:

1. Advantages of Anecdotal Records

Advantages of Anecdotal Records

Following are the advantages of anecdotal records.

1. It depicts actual behaviors in natural situations.
2. Facilitate gathering evidence on the events that are exceptional but significant.
3. Beneficial for students with less communication skills.

Topic 70: Limitations of Anecdotal Records

Following are the advantages of anecdotal records.

1. It takes long time to maintain.
2. Subjective in nature.
3. Anxiety may lead to wrong observation.

Topic 71: Teacher Observation

Classroom observation is one key area that has the potential to not only improve children's performance in a learning environment but also to assist teachers to identify the interest of the child in order to create an appropriate learning environment. Further, the view that observing children and teaching are inseparable processes, the rationale being that when children are observed during activities, information gathered reveals the child's areas of strengths and weakness in addition to what the child is capable of learning next. More importantly, through observation, the teacher gains cognizance of the child's performance in the domains of cognitive, physical, social, emotional and self-help skills. Behavioral observations may also be considered as an informal assessment of the developmental milestones of the child. Additionally, observations of the child's performance afford teachers an opportunity to evaluate their teaching strategies through information gained on the extent to which the child has responded to instruction (Sousa, 2001; Marion, 2010). It is not appropriate for the teacher to assume or estimate what the child is capable of doing during activity or learning (Gronlund, 1998). Using simple tools such as the child's portfolio and anecdotal records may provide an idea to begin to plan activities to support the child.

PORTFOLIO

In this session student will learn:

1. Portfolio
2. Weakness and strengths of portfolio

Topic 72: Portfolio

Systematic collection of students work into portfolios can serve a variety of instructional and assessment purposes. The value of portfolios depend heavily on the clarity of purpose the guidelines for the inclusion of materials, and the criteria to be used in evaluating portfolio.

Portfolio of students work

A portfolio is collection of student work selected to serve a particular purpose such as documentation of student growth. It is purposeful; collection of pieces of student's work.

Key steps in defining and using portfolios

1. Specify purpose.
2. Provide guidelines for selecting portfolios.
3. Define student's role in selection and self-evaluation.
4. Specify evaluation criteria.
5. Use portfolios in instruction and communication.

Topic 73: Strengths of portfolios

1. The can be readily integrated with the instruction.
2. Provide opportunity to student's to show what they can do.
3. Encourage to become reflective learner.
4. Help in setting goal and self-evaluation
5. Help teacher and student to collaborate and reflect on student's progress.
6. Effective way to communicate with parents.
7. Provide mechanism for student centered and student-directed conferences with parents.
8. Provide concrete examples of students development and current skills.

Topic 74: Weaknesses of portfolios

1. Can be time consuming to assemble.
2. Hard to use in summative assessment.
3. Difficult to compare results.
4. Very low reliability.

PURPOSE OF PORTFOLIO

In this session student will learn:

1. Purpose of Portfolio
2. Guidelines for portfolios entries.

Topic 75: Purposes of portfolios

Fundamentally two global purposes for creating portfolios of students work: for student's assessment and instruction. It can be used to showcase student's accomplishment and document the progress.

Topic 76: Instructional purposes

When primary purpose is instruction, the portfolio might be used as means of:

1. Helping students develop and refine self-evaluation skills.
2. Providing teacher with more reflecting information regarding students' progress.
3. Set criteria of excellence between teacher and student.
4. Student directed conferences with parents.
5. Access to student thought process and awareness of standards.
6. Teachers' student to communicate with different audience.

Topic 77: Assessment purposes

When emphasis is on assessment it is important to distinguish between formative and summative roles of assessment.

1. It can be used for formative purposes to measure progress.
2. Basis for certifying accomplishment.
3. For system accountability mechanism.

Topic 78: Current accomplishment and progress

When the focus is on accomplishments, portfolios usually are limited to finished work and may cover only a relatively small period of time.

When focus is on demonstrating growth and development the time frame is longer. It will include multiple version of same work over time to measure progress.

Topic 79: Showcase and documentation portfolios

It contains student selected entries. It demonstrate students ability to choose his best work which demonstrates his ability to do a task.

It intended to provide evidence about breath as well as depth of learning. It needs to be more inclusive and not just limited to special strength of student.

Topic 80: Finished and working portfolios

It implies that work is complete for specific audience. A job application portfolio for example. It is finished product for specific audience.

Topic 81: Guidelines for portfolios entries

Guidelines should specify:

1. The uses that will be made of the portfolio.
2. Who will have to do it?
3. What type of work is appropriate to include.
4. What criteria will be used in evaluating the work?
5. Should define timeline for the portfolios.
6. Minimum and maximum numbers of entries.

Topic 82: Checklists

Checklists are often used to record a presence or absence of something, such as a group event with specific goals in mind (Bentzen, 1993). For example, a teacher of three-year-olds can be giving a big book reading lesson and have a checklist at her side to quickly mark which goals are being met. The goals might include whether students are engaged in the book, speaking along with the content of the book, or answering questions about each page appropriately when asked. The teacher records this simply by making a check mark next to the selected box on chart. Once the checklist is completed, a teacher can see if the students as a whole are ready to move on to a more complicated book, or if some of the children need review in the selected goals.

Topic 83: Oral Test

The oral test is that in which the candidate gives spoken responses to questions from one or more examiner, is perhaps the oldest form of assessment; it has certainly been traditional practice.

PERFORMANCE BASED ASSESSMENT I**Topic 84: Performance-Based Assessment**

According to NIEER, the National Institute for Early Education Research (2004), “Child assessment is a vital and growing component of high-quality early childhood programs. Not only is it an important tool in understanding and supporting young children’s development, it is essential to document and evaluate program effectiveness” (p. 1). The primary purpose of assessment is to “identify both the well-developed and least well-developed skills of children so that beneficial learning experiences and teaching can be individually planned and carried out” (PA Keys, 2005, p. 7). Other purposes of using a performance-based assessment according to Epstein, et. al 2004, are to support planning instruction for individual and groups of children, informing program improvement and staff training needs and to evaluate how well the program’s curriculum is meeting the needs of all learners.

Performance-based assessments are continuous and ongoing throughout the school year, and typically rely on authentic items, such as child observations, work samples, anecdotes and portfolios as data to be collected for assessment. There have been several types of performance-based assessment tools developed for use with preschool-age children (i.e. HighScope Child Observation Record, Teaching Strategies GOLD, Work Sampling System, etc.). While each type of performance-based assessment from the various developers have their own way to reference the domains and standards that are assessed (i.e. Learning Objectives for Teaching Strategies GOLD, Key Developmental Indicators for COR, etc.), each are aligned with state early learning standards that address and support research-based areas of development in 3- and 4-year olds. These common-thread areas of development are social-emotional, physical, cognitive, oral language, literacy, and math development and learning.

Topic 85: Play -based Assessment

Play is defined as “voluntary engagement in enjoyable activities.” Play is an important aspect of children’s activities, as it is enjoyable and children spend much of their time engaged in it (Kelly-Vance & Ryalls, 2008). Moreover, engaging in play has long been believed to be beneficial to children because of its links to the development of language and cognitive skills (Fisher, 1992; Piaget, 1962; Vygotsky, 1933/1978). Play is divided into three types: exploratory, simple pretend, and

complex pretend play. Exploratory play involves manipulating objects in the most basic way, such as banging an object, pushing buttons, and opening and closing doors. Simple pretend play is a single act that is considered to be pretend play, such as taking a drink from a cup, feeding a doll, and making a doll drive a car. Complex pretend play involves pretend play acts in multiple steps in a sequence (Kelly-Vance & Ryalls, 2008).

Topic 86: Developing Literacy through Play

In a meta-analysis of play studies, Hall (1991) found that a number of research reports reflect the relationships between play and literacy. Hall summarizes the conclusions of these studies related as follows:

1. Play as a fundamental cognitive activity is preparation for more complex cognitive activities such as literacy.
2. Symbolic behavior in play is related to the understanding of a representational system like written language.
3. Language behavior in play is related to literate language.
4. When children are offered play experience with literacy-related resources, they act in literate ways (p.8-11).

PERFORMANCE BASED ASSESSMENT II

Topic 87: Activity Based Intervention (ABI)

As a multidisciplinary model, ABI was first used by Diane Bricker and her colleagues at the University of Oregon (Bricker et al., 1998; Daugherty, Grisham-Brown, & Hemmeter, 2001; Kurt & Tekinİftar, 2008; McBride & Schwartz, 2003). Although there are plenty of studies conducted on this title, ABI still needs to be determined more precisely (Rakap & Parlak-Rakap, 2008). Pretti-Frontczak and Bricker (2004) listed common points in the research in this area as below:

1. Choosing activities according to the child's interests
2. Teaching individual goals embedded in routines and planned activities
3. Teaching functional and generalizable skills
4. Using before and after behavior stimuli which have natural and meaningful relations with behaviors and environment.

Topic 88: Choosing Activities according to the Child's Interests

It is important to identify children's interests and choose child-directed activities according to these interests during early childhood education. If the activity is interesting for the child, it will be more meaningful for him/her and the teacher will not need to present extra reinforcers for the activity (Kurt, 2008; Pretti-Frontczack & Bricker, 2004). Child initiated activities and actions are known to be more functional, gripping, and useful for the child than the activities that were initiated by adults. Whenever the child initiates an activity or action, the adult should always encourage him/her, and diversify it by extending the activity, no matter what it is (Pretti-Frontczack & Bricker, 2004). Child-initiated activities should be determined as long or short-term targets of the child (Lovaas, 2003).

Topic 89: Teaching Individual Goals Embedded in Routines Activities

Teaching Individuals Goals Embedded in Routine Activities: The order that is followed for daily life activities is called a routine. Daily routines are important especially for young children to learn. The child will feel both safer in the orderly daily life routines and also this will provide various learning opportunities for the child (Vuran, 2007). Children encounter and get involved in these routine activities either at home or at school every day. Short and long term goals that are tried to be taught to children by using routine activities can be diversified. Many skills and concepts for preschool children can be worked out embedded in daily routines in the natural setting where they happen, without spending any extra time (Pretti-Frontczack & Bricker, 2004).

Topic 90 Teaching Individual Goals Embedded in Planned Activities

Goals determined for children can also be taught by embedding them in planned activities. Yet, planned activities are generally carried out with an adult's guidance or participation. Planned activities provide different learning opportunities in games. Therefore, planned activities should be well-designed. Planned activities should be desirable for the child and should be prepared according to the child's interests (Pretti-Frontczack & Bricker, 2004). An activity plan should be prepared for these kinds of activities. This activity plan includes the name of the activity, materials needed, environmental arrangements, sequencing the steps of the game/ activity, embedded learning opportunities, planned changes, target words, opportunities for peer interaction, and how parents or caregiver will be participating in the activity (Pretti-Frontczack & Bricker, 2004).

Topic 91: Teaching Functional and Generalizable Target Skills

Functional skills are the skills that enhance a child's independence and improve the quality of life for him/her in his/her physical and social environment (Bricker et.al., 1998). The age of the child and practicality of the skills in daily life is important functional skills. For example, although naming the days of the week is not functional for a two year-old child, it is a functional skill for a seven year-old child. For this, teachers should determine functional skills for children according to their specifications.

Goals determined for the child should also be generalizable. A skill is generalizable when it is performed in different settings with different people and materials (Kurt, 2008).

Using Before and After Behavior Stimuli which Have Natural and Meaningful Relations

with Behaviors and Environment: A child may not always develop desired behavior change even though s/he participates in the child-initiated, routine, and planned activities. Therefore, the teacher needs to prepare a systematic working plan in order to have children gain desired behaviors and reach satisfying results. When looked from this point of view, ABI does not mean for the child to do whatever activity he/she wants or leave them free while they play to learn by themselves. To assure desired behavior change, teacher should create enough opportunities for behavior to be performed, prepare necessary materials, determine the waiting time for independent response and provide prompting for behavior to be performed when necessary such as asking questions, modeling, and physical assistance. In this process, the reinforcements that are not related directly with the behavior and that are added to environment separately should be used as little as possible and activity itself should become reinforcement (Kurt, 2008).

Topic 92: Related Research

The research on ABI shows that it is effective for preschool children and children who are in different age and disability groups with developmental disabilities (Johnson & McDonnell, 2004; Kurt & Tekin-İftar, 2008; McDonnell et al., 2006). While in some of these studies preschool children were taught various developmental area skills, in others academic skills were taught to

children who are in inclusion settings. Also, teachers' practices of ABI were studied by some researchers.

In general, the research on effectiveness of ABI shows that it is used for teaching preschool children various skills such as imitating (Venn et al., 1993), social skills (Macy & Bricker, 2007), dressing and undressing (Sewell, Collins, Hemmeter, & Schuster, 1998), leisure activities (Kurt & Tekin-İftar, 2008), and transition skills (Bakkaloğlu, 2008). Another group of research was conducted on the effectiveness of teaching academic skills in inclusion settings such as counting numbers (Daughtery et.al., 2001), reading words (Wolery, Wolery, Anthony, Caldwell, Snyder, & Margante, 2002), asking for help, reading words and showing the bigger number (Johnson & McDonnell, 2004), answering questions related with science lesson, reading words and demanding (Johnson, McDonnell, Holzwarth, & Hunter, 2004), and telling the definitions of words (McDonnell et.al., 2006;). Another research title in this area is about how teachers use ABI in their practices (Horn, Lieber, Sandal, & Schwartz, 2000; Pretti-Frontczak & Bricker, 2001; McBride & Schwartz, 2003).

As a result, the research demonstrates that ABI practices are used by researchers, and/or teachers for teaching children with developmental disabilities various skills and behaviors and teachers use this technique in their classrooms comfortably. Based on the results of research in the literature, the steps that need to be taken to spread the practice of ABI in our country.

Topic 93: Art activities

Children enjoy making art pieces, taking pride in showing them to their family members. Art activities allow for learning opportunities in various domains such as cognitive, motor, social and emotional skills. The following is a series of planned art activities using different materials to embed learning of qualitative and spatial relations concepts.

In leaf rubbing, the child learns to identify the back and front of the leaves. He/ She places the leaves under a piece of paper and colors the top side with a crayon, deriving excitement from seeing the imprint of the leaves appear on the paper. In aluminium foil painting and collage making, the child learns how to identify the back (dull) and front (shiny) of the foil. The child will discover that the smooth aluminium foil becomes rough with bumps after being crunched and smoothened out. Besides meeting the initial goals and objectives, these art activities also provide opportunities for learning in other domains. For instance, in pairing the child with another, he/ she is exposed to peer interaction. Working together with limited art materials also encourages sharing which is part of social skills learning. Painting, printing and writing their names on the back of their art pieces develops fine motor skills while describing how the art work is made is a form of social communication skills training.

PERFORMANCE BASED ASSESSMENT III**Topic 94: Music and movement activities**

Music and movement activities let preschoolers explore music through movement. They use their bodies, simple rhythm instruments, and large movements. This is ideal for learning music at this age, and gives 3-5 year olds a chance to experience music, and rhythm in age appropriate ways.

Musical Hula Hoops

This is a variation of musical chairs. The difference is that it is not a competitive game--no one is OUT. Place several hula hoops around the area (Use large hula hoops and have one for every 3-4 children). Explain to the children that they will walk AROUND the hula hoops. When the music stops, they all need to be in a hula hoop and there can be more than one child in a hoop.

Each time you stop the music and the children are in the hoops, have them start walking around them again--but remove one hoop. Continue until there is only one hoop left. The children will all work together to make sure all of their friends get in the hoop when the music stops.

Action Songs

Sing songs with actions such as Head, Shoulders, Knees, and Toes

Statues /Freeze Game

Play music and the children can dance and sing. Every couple minutes stop the music and the children have to stay still in whatever pose they are in when the music stopped. If they move they are out but let them join back in after a few of them are out. This is great exercise for them when it is raining out.

Musical Marching Parade

Using inexpensive or homemade instruments allow the children to make their own music and perform. They can march, dance, clap, and drum to the music being played and act as if they are part of a musical marching parade.

Feather Dance

Take a bag of colored feathers. Give each child one to “feather dance” with. While the music is playing, have the children keep the feather in the air by blowing it. After a while, you can throw the whole bag of feathers in the air, and the kids can run around gathering up their own little bunches. For clean up, just give each child a color to pick up, so there won’t be any feathers left on the floor.

Topic 95: Paper Plate Dancing/Find the Beat

Help children find the beat of the music and do some activity related to the beat such as jumping, clapping, tapping their foot, or nodding their head.

Give each child a paper plate.

Play different types of music and have the children keep the beat by:

Tapping the plate on their head

Tapping the plate on their tummy

Tapping the plate on their foot

Tapping the plate on their knee

Once the children are used to tapping the paper plate on different body parts, ask them where they should tap the plate next.

“Yankee Doodle”

Yankee Doodle can go to town in other ways besides riding on a pony. It can be called slideroni, skiparoni, walkaroni, hoparoni, tiptoearoni----

Yankee Doodle went to town

Riding on a pony

He stuck a feather in his hat

And called it Skiparoni

Yankee Doodle skipped to town

Skipped to town so dandy

Mind the music and the step

And with the kids be handy

Topic 96: Streamer Dancing

Make some inexpensive streamers for dancing. Use lids from yogurt containers, cut the centers out to make plastic rings. Cut an old red plastic tablecloth and a white garbage bag into strips. Loop them in a knot through the rings. They are easy for small hands to hold. Turn on music and march or dance around the room waving streamers up and down and all around.

Scarf Dancing

Ask parents to donate old scarves or go to a thrift store and buy them. You will need once scarf per child. Play many different types of music. Have the children move their scarves to the beat of the music. Talk about the music... Is it fast, slow, happy, sad, etc...

Topic 97: Rhythm Sticks

All you need is a bell and a set of rhythm sticks for a fun movement activity on a rainy/snowy day! (And it really fine tunes Listening Skills!) “Click” a slow beat on the sticks. Call this “walking music”. Then “click” out a faster beat with the sticks. Call this “jogging music”. Now, ask the children to listen to the sticks’ rhythm. When they hear the “walking music”, they should walk around the room. When they hear the “jogging music”, jog. Now ring the bell. This means “stop and drop”. Now, have fun with the slow and fast beats of the sticks (“walking music” and “jogging music”) and ring the bell. The children will get a great physical and auditory workout.

Topic 98: Row, Row, Row Your Boat

The children sit in a circle and pretend it is a boat. Sing “Row, row, row your boat”. Then, since you’re the captain, shout out a child’s name and say, “Kelly, overboard!” That child jumps in the middle of the circle and pretends to swim. All of the rest of children in the boat throw in a pretend line and begin pulling. As we are “pulling we say “ 1-2-3-4-5 she’s/he’s alive!! The child in the middle then take his seat. We repeat this until everyone has had a turn to jump overboard.

With Your Partner (sung to Skip to My Lou)

Children are in pairs

With your partner... shake their hand,

(repeat 2 more times)

Shake their hand my darling.

Other verses: turn around, stamp your feet, stand and bend, shake your hands, nod your head, march in place, etc., (and finish) GIVE A HUG.

Sources:

<http://fun.familyeducation.com/toddler/music/37371.html><http://www.angeliquefelix.com/blog/a-to-z-movement-activities-for-young-kids>

Topic 99: One Potato, Two Potato

One potato, two potatoes, three potatoes, four.

Five potatoes, six potatoes, seven potatoes more!

Change the food based on their favorites. Encourage them to hold up the number of fingers as they sing this!

<http://www.preschool-plan-it.com/preschool-nutrition.html>

Topic 100: Food Charades

Have the children act out different types of food such as:

Popcorn popping

Toast popping out of a toaster

Fish swimming

A peeling banana

Topic 101: Preschool Nutrition Dance

Materials needed: Play food pieces including both healthy and unhealthy food; 2 large bowls or boxes; CD player and music.

The children should dance with their food piece. When the music stops, they should place their food in the appropriate bowl or box--healthy or unhealthy!

PERFORMANCE BASED ASSESSMENT IV**Topic 102: Block Activities**

Building with blocks provides one of the most valuable learning experiences available for young children. Block play stimulates learning in all domains of development, intellectual, physical, and social-emotional and language. Block play is fundamental for later cognitive success for learning math and numbers. In a research study, “Block Play Performance among Preschoolers as a Predictor of Later School Achievement in Mathematics”, published in the Journal of Research in Early Childhood Education, the researchers proved that children who play with blocks when they are three, four and five years of age will do better in math, especially Algebra in middle school.

Topic 103: Three year old

Three year olds block play will look different as they move into a simple constructive type of play. A three year old usually plays alone or near other children and are beginning to engage in pretend play. They are starting to build enclosures that resemble zoos, farm pens, roads and castles. They are learning concepts such as sorting, ordering, counting, one to one correspondence, size and shape.

Topic 104: Four and Five Year olds

At four and five children's block play is more experienced, developed, balanced coordinated and organized. Constructive play involves play that is more open- ended and exploratory. Children begin to combine structures to make more complex buildings. Socially, four and five year olds are beginning to share ideas and are starting to cooperate and build with others. They may use block accessories such as people, transportation vehicles, and animals to engage in imaginary/ pretend play. They are learning more complex patterns, classifying, sequencing, counting, fractions and problem solving. According to article “Constructive Play” written by Walter Frew et.al, “Block play shows the opportunity for conceptual understanding in the area of structural engineering as children explore forces of gravity, compression, tension and the relationship between materials and successful design to achieve balance, stability, and even aesthetic sensibility.”

Preschoolers are beginning to notice and explore more 3– dimensional objects such as cones, cylinders, cubes and prisms, (geometry). Science is also being learned through block play as children start making predictions, comparisons, experiment with cause and effect, stability and balance. Their vocabulary is also expanded by block play as they develop an understanding of spatial relations and words such as “under,” “over,” “off,” “bottom,” “top,” “through,” and “beside.”

Topic 105: Type of environment and materials for block play

Preschool Environment: The space in a classroom for block play is critical since preschoolers will be doing more constructive play where larger complex structures are made, with larger sized blocks, and many children working together. It is essential the block space is large enough to accommodate this type of play. The Early Childhood Environment Rating Scale – Revised Edition recommends the block play area should be big enough to allow at least three children to build sizable structures. Block play is more vigorous and louder than other areas in the classroom and should be located in a more active area of the classroom. Many teachers locate the block area next to the dramatic play area since both areas encourage cooperative imaginary play. The ECERS -R recommends the preschoolers have at least 2 different sets of blocks with 10-20 blocks in each set. Types of blocks suggested:

- Large hollow blocks, ramps, boards
- Unit blocks (as many shapes and sizes as possible, wooden or foam)
- Cardboard blocks
- Blocks made from boxes or milk cartons, covered with cloth or contact-paper
- Packing boxes Boards, sticks, logs, tree-stump rounds and stumps
- Cardboard, metal, or plastic tubes

Accessories are also essential to allow children more imaginary play. The blocks should be stored in low open labeled shelves. The unit blocks should be labeled by shape to encourage organization, shape matching, and easy clean up. Block play is also strongly encouraged outside as there is often times more room for children to build even larger structures. The ECERS-R tool recommends a large flat surface, out of the way of traffic, with enough blocks and accessories for three children.

Topic 106: The teacher's Role

In the article, “Constructive Play” the authors suggest the teachers receive “Professional development experiences that feature hands on constructive play with open-ended materials. Adults who engage in active inquiry and construct knowledge through creative exploration with materials are more positively disposed to encouraging children to do the same.” The article goes on to say that teachers who play develop an understanding and appreciation of play!

Teachers who describe the children's action while they are engaged in block play are helping the children develop receptive and expressive language. Teachers who ask open ended questions encourage more conversation and opportunities to expand on the children's thought process. Encourage children to reason by asking “reasoning type” questions, “What will happen if you put that block on top?” “Which row is bigger, which one is smaller?” “How many blocks high is that structure?” “Is that taller than your friend?”

The lessons learned in block play are fundamental to the growth and development of children. It is an activity which should be a part of every child's experience throughout the early years.

<http://www.claytonearlylearning.org/blog/why-is-block-play-important-for-toddlers-and-preschoolers-what-are-they-learning/>

PERFORMANCE BASED ASSESSMENT V**Topic 107: Science and Discovery Activities**

The need to focus on science in the early childhood classroom is based on a number of factors currently affecting the early childhood community. First and foremost is the growing understanding and recognition of the power of children's early thinking and learning. Research and practice suggest that children have a much greater potential to learn than previously thought, and therefore early childhood settings should provide richer and more challenging environments for learning. In these environments, guided by skillful teachers, children's experiences in the early years can have significant impact on their later learning. In addition, science may be a particularly important domain in early childhood, serving not only to build a basis for future scientific understanding but also to build important skills and attitudes for learning. A recent publication from the National Research Council supports this argument:

Children who have a broad base of experience in domain-specific knowledge (for example, in mathematics or an area of science) move more rapidly in acquiring more complex skills.... Because these [mathematics and science] are "privileged domains," that is, domains in which children have a natural proclivity to learn, experiment, and explore, they allow for nurturing and extending the boundaries of the learning in which children are already actively engaged. Developing and extending children's interest is particularly important in the preschool years, when attention and self-regulation are nascent abilities. (Bowman, Donovan, & Burns, 2001, pp. 8-9)

This growing understanding of the value of science in early education comes at a time when the number and diversity of children in child care settings and the number of hours each child spends in such settings is increasing. Growing numbers of children live in poverty. More and more grow up in single-parent homes and homes in which both parents work. Media have become commonplace in the lives of the very young. Thus, experiences that provide direct manipulation of and experience with objects, materials, and phenomena—such as playing in the sink, raising a pet, or going to the playground—are less likely to occur in the home. More and more, it is in the early childhood classroom where this kind of experience with the natural world must take place, allowing all children to build experiences in investigation and problem solving and the foundation for understanding basic science concepts.

Scientific inquiry provides the opportunity for children to develop a range of skills, either explicitly or implicitly. The following is one such list:

1. Explore objects, materials, and events.
2. Raise questions.
3. Make careful observations.

4. Engage in simple investigations.
5. Describe (including shape, size, number), compare, sort, classify, and order.
6. Record observations using words, pictures, charts, and graphs.
7. Use a variety of simple tools to extend observations.
8. Identify patterns and relationships.
9. Develop tentative explanations and ideas.
10. Work collaboratively with others.
11. Share and discuss ideas and listen to new perspectives.

This description of the practice of doing science is quite different from some of the science work in evidence in many classrooms where there may be a science table on which sit interesting objects and materials, along with observation and measurement tools such as magnifiers and balances. Too often the work stops there, and little is made of the observations children make and the questions they raise. Another form of science is activity-based science where children engage in a variety of activities that generate excitement and interest but that rarely lead to deeper thinking. There are a multitude of science activity books that support this form of science in the classroom. Thematic units and projects are yet other vehicles for science work in the classroom. These can be rich and challenging; however, they may not have a focus on science. Transportation or a study of the neighborhood are typical examples that have the potential for engaging children in interesting science but frequently focus more on concepts of social studies. If these projects or themes are to truly engage students in science, care needs to be taken to be sure that science is in the foreground, and the integration with other subject matter is appropriate and related to the science.

Topic 108: Math and Manipulative Activities

Manipulatives are concrete materials (e.g., blocks, tiles) used to demonstrate a mathematics concept or to support the execution of a mathematical procedure. They have become a mainstay of mathematical instruction in America as well as internationally (e.g., Correa, Perry, Sims, Miller, & Fang, 2008; Puchner, Taylor, O'Donnell, & Fick, 2008). A recent meta-analysis of 55 studies that compared instruction with or without manipulatives suggests that manipulatives can benefit learning, but only under certain conditions (Carbonneau, Marley, & Selig, 2013).

For instance, differences in the benefits of manipulatives were associated with the content being taught; manipulatives were more advantageous for learning about fractions than for learning arithmetic. The results also indicated that instruction with manipulatives was least effective for children between the ages of 3 and 6 years, with very small and sometimes negative effects. These findings suggest that the efficacy of manipulatives for promoting learning may depend on the conditions under which they are used. Given the lack of clear evidence supporting the use of

manipulatives, should they be used to teach mathematics in early childhood? We believe the answer is yes—if careful consideration is given to what research has identified about the conditions under which when manipulatives are likely to promote, rather than hinder, learning. Cognitive science research, in particular, has generated a considerable amount of knowledge that could be useful for improving instruction so that all young children can acquire the mathematics

knowledge necessary for success, as described in National Council of Teachers of Mathematics (NCTM) standards and Common Core standards (Laski, Reeves, Ganley, & Mitchell, 2013; NCTM, 2006; National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010; Newcombe et al., 2009; Siegler, 2003). The findings from cognitive science relevant to the use of manipulatives in early childhood math instruction, and synthesize them into four principles for maximizing the effective use of mathematics manipulatives. To demonstrate how early childhood instruction can reflect these principles, we offer examples from Montessori instruction. Maria Montessori (Montessori & Simmonds, 1917) was among the first educators to develop materials specifically designed to instantiate mathematics concepts. She developed a wide array of materials designed to help children understand concepts, such as place value (Lillard, 2005). The benefits of the Montessori approach to mathematics learning in early childhood may, at least in part, be due to its effective use of manipulatives.

Topic 109: Four Principles for Maximizing the Effectiveness of Manipulatives

The widespread use of manipulatives is rooted in the idea that young children reason concretely before they do so abstractly. It is important to remember, however, that even though manipulatives are concrete objects, understanding how they represent concepts requires abstract thinking a manipulative is still just a physical representation of a concept, not the concept itself. Thus, cognitive research about young children's symbolic reasoning and the conditions that facilitate their ability to abstract information from symbols can inform classroom practice that is developmentally appropriate. Four general principles emerged:

1. use a manipulative consistently, over a long period of time;
2. begin with highly transparent concrete representations and move to more abstract representations over time;
3. avoid manipulatives that resemble everyday objects or have distracting irrelevant features;
4. Explicitly explain the relation between the manipulatives and the math concept.

PERFORMANCE BASED ASSESSMENT VI**Topic 110: Literacy Activities**

Literacy can be defined as, “the ability to read and write” (Tsao, 2008, p.515). Play is defined as “voluntary engagement in enjoyable activities.”

Essential Early Literacy Teaching Strategies

Effective early literacy instruction provides preschool children with developmentally appropriate settings, materials, experiences, and social support that encourage early forms of reading and writing to flourish and develop into conventional literacy. These basics can be broken down into eight specific strategies with strong research links to early literacy skills and, in some cases, with later elementary-grade reading achievement. Note that play has a prominent role in strategies 5, 6, and 8. Linking literacy and play is one of the most effective ways to make literacy activities meaningful and enjoyable for children.

Topic 111: Rich teacher talk

Engage children in rich conversations in large group, small group, and one-to-one settings. When talking with children,

- use rare words—words that children are unlikely to encounter in everyday conversations;
- extend children’s comments into more descriptive, grammatically mature statements;
- discuss cognitively challenging content—topics that are not immediately present, that involve knowledge about the world, or that encourage children to reflect on language as an object;
- listen and respond to what children have to say.

Topic 112: Storybook reading

Read aloud to your class once or twice a day, exposing children to numerous enjoyable stories, poems, and information books. Provide supportive conversations and activities before, during, and after reading. Repeated reading of favorite books builds familiarity, increasing the likelihood that children will attempt to read those books on their own.

Topic 113: Phonological awareness activities

These activities increase children’s awareness of the sounds of language. These activities include playing games and listening to stories, poems, and songs that involve

rhyme: identifying words that end with the same sound (e.g., Jack and Jill went up the hill);

alliteration: recognizing when several words begin with the same sound (e.g., Peter Piper picked a peck of pickled peppers);

sound matching: deciding which of several words begins with a specific sound (e.g., show a child pictures of a bird, a dog, and a cat and ask which one starts with the /d/ sound). Try to make these activities fun and enjoyable.

Topic 114: Alphabet activities

Engage children with materials that promote identification of the letters of the alphabet, including

- ABC books
- magnetic letters
- alphabet blocks and puzzles
- alphabet charts

Use direct instruction to teach letter names that have personal meaning to children (“Look, Jennifer’s and Joey’s names both start with the same letter. What is the letter’s name? That’s right, they both start with j”).

Topic 115: Support for emergent reading

Encourage children to attempt to read books and other types of print by providing

- a well-designed library center, stocked with lots of good books;
- repeated readings of favorite books (to familiarize children with books and encourage independent reading);
- functional print linked to class activities (e.g., daily schedules, helper charts, toy shelf labels);
- play-related print (e.g., signs, menus, employee name tags in a restaurant play center).

Topic 116: Support for emergent writing

Encourage children to use emergent forms of writing, such as scribble writing, random letter strings, and invented spelling, by providing

- a writing center stocked with pens, pencils, markers, paper, and book-making materials;
- shared writing demonstrations in which the teacher writes down text dictated by children;
- functional writing opportunities that are connected to class activities (e.g., sign-up sheets for popular centers, library book check-out slips, Do not touch! signs);

- play-related writing materials (e.g., pencils and notepads for taking orders in a restaurant play center).

Topic 117: Shared book experience

Read Big Books and other enlarged texts to children, and point to the print as it is read. While introducing and reading the text, draw children's attention to basic concepts of print such as

- the distinction between pictures and print;
- left-to-right, top-to-bottom sequence;
- book concepts (cover, title, page).

Read favorite stories repeatedly, and encourage children to read along on the parts of the story they remember. 

Topic 118: Integrated, content-focused activities

Provide opportunities for children to investigate topics that are of interest to them. The objective is for children to use oral language, reading, and writing to learn about the world. Once a topic has been identified, children can

- listen to the teacher read topic-related information books and look at the books on their own;
- gather data using observation, experiments, interviews, and such;
- use emergent writing to record observations and information; and
- engage in dramatic play to consolidate and express what they have learned.

As a result of such projects, children's language and literacy skills are advanced, and they gain valuable background knowledge.

CREATING FIXED-CHOICE TEST ITEMS**Topic 119: Selection of item in a test**

In this session student will learn:

3. Selection of item in a test

Selecting Item Format

In accordance with the table of specifications, the teacher decides the item type most appropriate for measuring a stated level of cognitive domain. There are basically two major types of items objective type and subjective types.

Within objective type items there are: true-false, short answer, multiple choice items, and matching exercise. Which are most appropriate in view of the nature of content, nature of cognitive process and mental level of the students.

The format of the item necessarily proceeds from the test blueprint. The blueprint indicates the kinds of skills and the balance of test content to be measured

The format of the item necessarily proceeds from the test blueprint. The blueprint indicates the kinds of skills and the balance of test content to be measured

The selection of item format should be based on the kinds of skills to be measured and not on some personal like or dislike for a particular item format.

The use of multiple-choice questions, may make sense for large group testing on knowledge of the mechanics of English. This type of item is not generally appropriate, though, as a direct measure of writing skill.

If the intent is to determine whether an examinee can write a clear coherent essay, then an essay or free-response format is clearly more appropriate than a multiple-choice format.

There is no inherent goodness or badness in any type of question format. The choice must be made on the basis of the behavior to be tested.

Topic 120: Types of Objective Type Items

1. Selection Type
2. Supply Type

In selection type, true-false or alternative form, matching exercises, and multiple choice items are included. Other category of objective type items that is supply type consisted of completion or fill in the blanks and short answer items. The selection of any one or combination of these is made on the basis of their suitability for measuring the desired learning outcome.

Topic 121: Characteristics of MCQs

In this session student will learn:

1. Characteristics of MCQs

Multiple Choice Items

The multiple choice items is generally recognized as the most widely applicable and useful type of objectives test items that can measure knowledge, comprehension and as well as application level learning outcomes.

Multiple choice items consist of two parts:

1. A Stem
2. No. of options or alternatives

Stem

The problem may be stated as direct question or an incomplete statement and is called the stem of the item.

Alternatives

The list of suggested solutions which may include words, numbers, symbols or phrases are called alternatives (also called choices or options).

The correct alternative in each item is called the answer while all incorrect or less appropriate alternatives are called distractors or foiled and the student's task is to select the correct or best alternative from all the options.

Topic 122: Format of MCQs

Whether to use a direct question or incomplete statement in the stem depends on several factors.

Direct question: the direct question format is easier to write, is more natural for younger students and is more likely to present a clearly formulated problem.

Example of direct question:

Which of the following city of the capital of Pakistan?

- a) Islamabad
- b) Karachi
- c) Lahore
- d) Quetta

Example of incomplete question:

The capital of Pakistan is:

- a) Islamabad
- b) Karachi
- c) Lahore
- d) Quetta

Topic 123: Selection of Format

A common procedure is to start each stem as a direct question and shift to the incomplete statement form only when the clarity of the problem can be retained and greater conciseness achieved.

Format of MCQs

When we get beyond the simple aspects of knowledge, represented by questions of who what when and where variety, answers of varying degree of acceptability are the rule rather than the exception.

Question of why variety tend to reveal a number of possible reasons, some of which are better than others.

Questions of how variety usually reveals several possible procedures some of which are more desirable than the others.

Measures of achievement in these areas then become matter of selecting the best answer. This type is useful for measuring SLOs that require understanding, application, or interpretation of factual information.

Example of best answer type MCQs:

Which of the following factor contributed most to the selection of Islamabad as capital of Pakistan?

- a) Central location
- b) Good climate
- c) Large population
- d) Good highways

Best answer type MCQs

The best answer type MCQs tend to be more difficult than the correct answer type. This type is used to measure more complex level of learning in students.

Topic 124: Uses of MCQs

In this session student will learn:

1. Uses of MCQs

Uses of Multiple Choice Questions (MCQs)

The MCQs are the most versatile type of test item available. It can measure variety of learning outcomes from simple to complex, and it is adaptable to the most type of matter content.

Despite the wide applicability of the MCQs there are SLOs, such as ability to organize and present ideas that cannot be measured with any form of selection item. For such skills constructed and restricted response questions are used.

Uses of MCQs in measuring knowledge outcomes

Learning outcomes in the knowledge are so prominent in all school subjects, and MCQs can measure variety of these outcomes. Some of the typical uses are:

Knowledge of terminology: student can be asked to show their knowledge of particular term by selecting a word that has same meaning as given term.

Example: Which of the following word has same meaning as the word Egress

- a) Depress
- b) Enter
- c) Exit
- d) Regress

Example: Which of the following statement best define the word degree?

- a) An expression of disapproval
- b) An act of leaving an enclosed place.
- c) Proceeding to higher level

Topic 125: Uses of MCQs (Continue 1)

In this session student will learn:

1. Uses of MCQs

Knowledge of Principles

Knowledge of principle is an important learning outcome in most school subjects. MCQs can be constructed to measure knowledge of principle as easily as those designed to measure facts.

Example: The principle of capillary action helps explain how fluids;

- a) Enter solution of lower concentration
- b) Rise in fine tube**
- c) Escape through small openings

Knowledge of methods

This includes diverse areas such as knowledge of labs, knowledge of methods underlying communication, computational and performance skills.

In some cases we might want to measure knowledge of procedures before we permit students to practice in a particular area. In other cases knowledge of methods may be important learning outcome in their own right.

Example: To make legislation the prime minister of Pakistan must have the consent of:

- a) Parliament**
- b) Ministry of law
- c) Military command
- d) Supreme court

These uses and their examples have merely scratched the surface of MCQs measuring knowledge outcomes. MCQs can be used to measure much more complex nature of knowledge. But that is left for more advanced course.

Topic 126: Uses of MCQs (Continue 2)

In this session student will learn:

1. Uses of MCQs

Knowledge of specific facts

Another learning outcome basic to all school subjects is the knowledge of specific facts. It provides basis for developing understanding, thinking skills and other complex learning.

MCQs designed to measure specific facts can take many forms, that questions of the who, what, when, and where variety are most common.

Example: Who was 1st astronaut to land on moon?

- a) Buzz Aldrin
- b) Neil Armstrong**
- c) Yuri Gagarin

Example: What was the name of space shuttle that landed on the moon?

- a) Apollo**
- b) Atlas
- c) Midas
- d) Polaris

Example: When did first man landed on the moon?

- a) 1962
- b) 1966
- c) 1967
- d) 1969**

ADVANTAGES AND LIMITATIONS OF MCQS

In this session student will learn:

1. Advantages and limitations of MCQs

Topic 127: Advantages and limitations of MCQs

The MCQ is one of the most widely applicable test items for measuring knowledge, achievement. It can effectively measure various types of knowledge and complex learning outcomes.

It is free from some of the common short comings which are characteristics of the other test items like ambiguity and vagueness usually associated with short questions.

Example of vague question: Quid e Azam was born in _____.

Now this type of question is vague. There can be multiple correct answer for this question. This is poorly constructed item.

Quid e Azam was born in:

- a) Karachi
- b) Lahore
- c) Peshawar
- d) Dehli

Topic 128: Advantages and Limitations of MCQs (continue 1)

In this session student will learn:

1. Advantages and limitations of MCQs

Advantages and limitations of MCQs

MCQ reduce the risk of guessing the correct answer. You have to know correct answer. There is high chance of wrong answer if you solely depend on guess.

Example: Quid e Azam was born in 1867.

True/false

Student will receive score even if he didn't know the correct year of birth Quid e Azam if he/she tick n false.

In which year Quid e Azam was born?

a) 1867

b) 1876

c) 1878

d) 1887

MCQ item reduced the probability of guessing as compared to other form of item.

Topic 129: Advantages and Limitations of MCQs (continue 2)

In this session student will learn:

1. Advantages and limitations of MCQs

Advantages of MCQs

1. Ensure objectivity, reliability and validity; preparation of questions with colleagues provides constructive criticism.
2. Increase significantly the range and variety of facts that can be sampled in given time.
3. Provide precise and unambiguous measurement of the higher intellectual processes.
4. Provide detailed feedback for both student and teachers.
5. MCQ are easy and rapid to score.

Limitations of MCQs

1. Take long time to construct in order to avoid arbitrary and ambiguous questions.
2. Require careful preparation to avoid multitude of questions testing only recall.

SUGGESTIONS FOR CONSTRUCTING MCQS

In this session student will learn:

1. Suggestions for constructing MCQs

Topic 130: Suggestions for constructing multiple choice items

The general applicability and the superior qualities of multiple choice test items are realized most fully when care is taken in their construction. This involve formulating a clearly stated problems, identifying plausible alternatives, and removing irrelevant clues to the answer.

1. The stem of the item should be meaningful by itself and should present a definite problem.

Explanation: often the stem of the test placed in MCQ form are incomplete statements that are make little sense until all the alternatives have been read. This is not MCQ but rather and true false question placed in MCQ form.

Example: **Poor item**

South America

- a) Is flat, arid country
- b) Imports coffee from the united states
- c) Has larger population then Europe
- d) Was settled by colonist from Spain**

Example: **Better item**

Most of the south America was settled by colonists from

- a) England
- b) France
- c) Holland
- d) Spain**

Topic 131: Suggestions for constructing MCQs (continue 1)

In this session student will learn:

1. Suggestions for constructing MCQs

Suggestions for constructing multiple choice items

2. The item stem should include as much as of the item as possible and should be free of irrelevant material.

Explanation: Clear stem increase the probability of the item as well as reduce the reading time required.

Example: **Poor item**

Most of the Indian subcontinent was settled by colonists from Britain. How would you account for the large number of colonists settling there?

- a) They are adventurers
- b) They were in search of wealth**
- c) They wanted lower taxes
- d) They were seeking religious freedom

Example: **Better item**

Why did Britishers settled in india?

- a) For adventures
- b) For wealth**
- c) For lower taxes
- d) For religious freedom

Topic 132: Suggestions for constructing MCQs (continue 2)

In this session student will learn:

1. Suggestions for constructing MCQs

Suggestions for constructing multiple choice items

3. Try to avoid the negative statements, unless the significant learning outcome requires it.

Explanation: These avoid the possibility of student overlooking “no”, or “least” and similar words used in negative items.

Example: **Poor item**

Which of the following city is not located in north Islamabad?

- a) Abbottabad
- b) Gilgit
- c) **Lahore**
- d) Mingora

Example: **Better item**

Which of the following city is located in south Islamabad?

- a) Abbottabad
- b) Gilgit
- c) **Lahore**
- d) Mingora

Topic 133: Suggestions for constructing MCQs (continue 3)

In this session student will learn:

1. Suggestions for constructing MCQs

Suggestions for constructing multiple choice items

4. All alternatives should be grammatically consistent with the stem of item.

Explanation: in the following examples note how the better version results from a change in the alternatives in order to obtain grammatical consistency. The main function of this rule is to prevent irrelevant clues from entering.

Example: **Poor item**

An electric transformer can be used

- a) For strong electricity
- b) To increase the voltage of alternating current
- c) It converts electrical energy into mechanical energy
- d) Alternating current is changed to direct current

Example: **Better item**

An electric transformer can be used to

- a) Produce strong electricity
- b) Increase the voltage of alternating current
- c) Convert electrical energy into mechanical energy
- d) Change alternating current to direct current

Topic 134: Suggestions for constructing MCQs (continue 4)

In this session student will learn:

1. Suggestions for constructing MCQs

Suggestions for constructing multiple choice items

5. An item should contain only one correct or clearly best answer.

Explanation: Including more than one correct answer in a test item and asking students to select all the correct alternatives has 2 shortcomings.

- a. Such items are usually no more than a collection of true and false item presented in MCQ form.
- b. The number of alternatives selected as correct answers varies from one student to another.

Example: **Poor item**

Pakistan borders on:

- a) India
- b) Tajikistan
- c) Saudi Arabia
- d) China

Example: **Better item**

Pakistan borders on:

- | | |
|-----------------|-----|
| a) India | T/F |
| b) Tajikistan | T/F |
| c) Saudi Arabia | T/F |
| d) China | T/F |

Topic 135: Suggestions for constructing MCQs (continue 5)

In this session student will learn:

1. Suggestions for constructing MCQs

Suggestions for constructing multiple choice items

6. All distracters should be plausible. The purpose of distractor is to confuse the uniformed.

Explanation: to the student who has not achieved the learning outcome being tested, the distracter should be as attractive as the correct answer. If properly constructed, each distracter will be selected by some students. If the distracter is not selected by anyone, it is not contributing to the functioning of the item and should be eliminated or revised.

Example: **Poor item**

Who wrote national anthem of Pakistan?

- a) Allama Iqbal
- b) Christopher Columbus
- c) **Hafeez Jullandhuri**
- d) Ibrar ul Haq

Example: **Better item**

Who wrote national anthem of Pakistan?

- a) Allama Iqbal
- b) Habib Jalib
- c) **Hafeez Jullandhuri**
- d) Munir Niazi

Topic 136: Suggestions for constructing MCQs (continue 6)

In this session student will learn:

1. Suggestions for constructing MCQs

Suggestions for constructing multiple choice items

7. Verbal association between the stem and the correct answer should be avoided.

Explanation: Frequently a word in the correct answer will provide an alternative clue because it looks or sounds like the word in the stem of the item. However, word similar to those in the stem might be included in the distracters to increase their plausibility. Students who depend on rote memory and verbal association will then be led away, from rather than to, the correct answer.

Example: **Poor item**

Which of the following agencies should you contact to find about a flood?

- a) National flood relief
- b) Local radio station
- c) Pakistan post
- d) Pakistan weather bureau

Example: **Better item**

Which of the following agencies should you contact to find about a flood?

- a) Disaster management office
- b) Radio station
- c) Post office
- d) Weather bureau

Topic 137: Suggestions for constructing MCQs (continue 7)

In this session student will learn:

1. Suggestions for constructing MCQs

Suggestions for constructing multiple choice items

8. The relative length of the alternatives should not provide a clue to the answer.
Explanation: the best we can hope for in equalizing the length of the test item's alternatives is to make them approximately equal. But because the correct answer is usually needs to be qualified, it tends to be longer than the distractors unless a special effort is made.

Example: **Poor item**

What is the major purpose of United Nations?

- a) To maintain peace among people of the world
- b) To establish international law
- c) To provide military control
- d) To form new governments

Example: **Better item**

What is the major purpose of United Nations?

- a) To maintain peace among people of the world
- b) To develop new system of international law
- c) To provide military control of new nations
- d) To establish democratic forms of governments

TRUE/ FALSE ITEMS

In this session student will learn:

1. True/ False or alternative-response items.
2. Uses of true/false items

Topic 138: True/ False (alternative form) questions

Alternate-response test items consist of declarative statement that the student is asked to mark true or false, right or wrong, correct or incorrect, or the like.

Uses of True-false (Alternate form questions)

For measuring such relatively simple learning outcomes, a single declarative statement is used with anyone of several methods of responding.

Example: Directions, Read each of the following statements. If the statement is true, encircle T and if statement is false encircle F.

A river is bigger than a stream. T F

Founded is the past tense of found. T F

Dozen is equivalent to 20. T F

Example: Directions, Read each of the following statements. If the answer is yes, encircle Y and if answer is no encircle N.

Is 51% of 38 more than 19? Y N

Is 50% of 4/10 equal to 2/5? Y N

If 60% of a number is 9, is the number smaller than 9? Y N

One of the most useful functions of true and false items is in measuring the students ability to distinguish fact from opinion.

Example: Directions, Read each of the following statements. If the is a fact encircle F and if statement is an opinion encircle O.

Current constitution of Pakistan is written in 1973. F O

Pakistan progressed most under dictator rule. F O

18th amendment decentralized the ministry of education. F O

Topic 139: Uses of True/ False items

In this session student will learn:

1. Uses of true/false items

Uses of True/ False (alternative form) questions

Another aspect of understanding that can be measured by true and false item is ability to recognize cause and effect relationship. This type of item usually contains true propositions in one statement, and the student is to judge whether the relationship between them is true or false.

Example: Directions, Read each of the following statements, both parts of statement are true. You are to decide whether the second part explains why the first part is true. If it does, encircle Yes. If it does not, encircle No.

Leaves are essentials because they shade the tree trunk. Yes No

Some plants do not need sunlight because they get food from other plants. Yes No

It could be used to measure some simple aspect of logic.

Example: Directions, Read each of the following statements. If the statement is true encircle T. if the statement is false encircle F. Also, if the converse of the statement is true circle CT, if the converse of statement is false circle CF. Be sure to give 2 answer for each statement.

All trees are plant. T F CT CF

All parasites are animals. T F CT CF

All eight legged animals are spiders. T F CT CF

Topic 140: Advantages and limitations of True-false

In this session student will learn:

i. Advantages and disadvantages of True-false (alternative form) questions**True-false (alternative form) questions**

Alternative form of question requires students to select any one of the two given categories. The categories may be True-false, yes-no, correct-incorrect or fact-opinion.

Alternative form of items is most suitable for measuring lower level learning outcomes. True-false items can be used in different forms

Topic 141: Advantages of alternative form (true-false)

True-false questions are well suited for testing lower level learning outcomes, like a student's ability to;

1. Identify the correctness of factual statements, e.g. Earth is a planet.
2. Definition of terms e.g. Photosynthesis is the process by which leaves make food for plants.
3. Statement of principles, e.g. Earth is revolving around the sun.
4. Distinguish facts from opinion, e.g. Islam is the official religion of Pakistan.
5. Recognize cause-and-effect relationship

From a teachers' point of view alternative-form questions are very useful when;

1. A lot of content is to be covered in a fairly short amount of time.
2. The time available for scoring is very short.

Topic 142: Limitations of alternative form (true-false)

Most commonly observed limitations are:

1. All learning outcomes cannot be measured through alternative form questions. They are generally limited to lower level learning outcomes.

2. Ease of guessing correct answers when the answer is not known. With only two choices\ (true or false) the student could expect to guess correctly on half of the items for which correct answers are not known.
3. There is sometimes a tendency to take quotations from the text with a minor change in wording.
4. There may also be a tendency to include trivial material from the text.
5. True-false items are prone to high guessing and can only be used for measuring lower level learning outcomes.

SUGGESTIONS FOR CONSTRUCTING TRUE-FALSE (ALTERNATIVE FORM)**ITEMS**

In this session student will learn:

1. Suggestions for Constructing True-false items

Topic 143: Suggestions for Constructing True-false items

Most important task in formulating statements is free from ambiguity and irrelevant clues. 

There are list of things to avoid when phrasing the statement.

1. Avoid broad general statements if they are to be judged true or false.

Explanation: Most broad generalizations are false unless qualified, and the use of qualifiers provides clues to the answer.

Example: **Poor item**

The president of Pakistan is *usually* elected to his/her office.

Example: **Better item**

According to constitution of Pakistan, the president of Pakistan is elected by parliament.

Topic 144: Suggestions for Constructing True-false items (Continue 1)

In this session student will learn:

1. Suggestions for Constructing True-false items

Suggestions for Constructing True-false items

2. Avoid trivial statements.

Explanation: to obtain the statements that are clearly true and false, we turn to specific statements of fact that fits the criterion but have little significance from learning point of view.

Example: **Poor item**

Mamnoon Hussain is 12th president of Pakistan.

Example: **Poor item**

India declared war on Pakistan on September 3rd, 1965.

Topic 145: Suggestions for Constructing True-false items (Continue 2)

In this session student will learn:

1. Suggestions for Constructing True-false items

Suggestions for Constructing True-false items

3. Avoid the use of negative especially double negative statements.

Explanation: students tend to overlook negative words such as no or not, and double negative contribute to statement's ambiguity. If absolutely necessary, it should be underlined or put in italic so that students do not overlook it.

Example: **Poor item**

None of the steps in the experiment was unnecessary.

Example: **Better item**

All the steps in the experiment were necessary.

Topic 146: Suggestions for Constructing True-false items (Continue 3)

In this session student will learn:

1. Suggestions for Constructing True-false items

Suggestions for Constructing True-false items

4. Avoid long and complex sentences.

Explanation: a test item should indicate whether a student has achieved the knowledge or understanding being measured. Long, complex sentences tend also to measure the extraneous factor of reading comprehension.

If avoiding long and complex statement is not possible then it may be necessary to change to another item form in order to avoid a complex sentence structure.

Example: **Poor item**

Despite the theoretical and experimental difficulties of determining the exact pH value of a solution, it is possible to determine whether a solution is acid by the red color formed on the litmus paper when it is inserted into the solution.

Example: **Better item**

Litmus paper turns red in an acid solution.

Topic 147: Suggestions for Constructing True-false items (Continue 4)

In this session student will learn:

1. Suggestions for Constructing True-false items

Suggestions for Constructing True-false items

5. Avoid including two ideas in one statement unless cause and effect relationship are being measured.

Explanation: students can get confused and answer for only one statement. Other statement can have different answer. It is better to use two simple statement instead of including two ideas in one statement.

Example: **Poor item**

Pakistan could not qualify for world cup hockey because of poor resources, low talent and government support. (T)

Pakistan could not qualify for world cup hockey because of poor resources, low talent. (F)

Pakistan could not qualify for world cup hockey because of poor resources. (T)

Topic 148: Suggestions for Constructing True-false items (Continue 5)

In this session student will learn:

1. Suggestions for Constructing True-false items

Suggestions for Constructing True-false items

6. Avoid using opinion that is not attributed to some source.

Explanation: statement of the opinion cannot be marked true or false, and it is unfair to expect students to guess how the teacher will score such items, or to respond to opinion statements as statements of facts .

Example: **Poor item**

All anti-state activists should be hanged

Example: **Better item**

National Action Plan allows the justice system to give death penalty to anti-state activists if proven guilty.

Topic 149: Suggestions for Constructing True-false items (Continue 6)

In this session student will learn:

1. Suggestions for Constructing True-false items

Suggestions for Constructing True-false items

7. Avoid using true statements and false statements that are unequal in length.

Explanation: there is natural tendency for true statements to be longer because such statements must be precisely phrased in order to be absolutely true.

This can be overcome by lengthening the false statements through the use of qualifying phrase similar to those found in true statements.

8. Avoid using inappropriate numbers of true statements and false statements.

Explanation: there is natural tendency for true statements to be longer because such statements must be precisely phrased in order to be absolutely true.

MATCHING EXERCISES

In this session student will learn:

1. About matching type exercise.

Topic 150: Matching Type exercise

The matching type exercises consist of two parallel columns, first column premises and the second one is responses and the directions for matching the two columns.

Matching test items are also selection items specially used to measure student's ability to identify relationship between a set of similar items, each of which has two components. Such as words and their definitions, symbols and their meanings, dates and events, people and their accomplishments, etc.

Matching exercise is economical methods when used with content which has sufficient homogeneous factual information. In developing matching items, there are two columns of material.

Matching exercise is used when measuring student's ability to identify the relationship between a set of similar items, each of which has two components.

Instruction: List of premises includes list of prominent Pakistanis and list of responses gives their reason of fame. Match the given names with their respective reason of fame. There can be more than one reason of fame listed for one name and any of the given names may not correspond to any of the reasons of fame.

List A (Premises)	List B (Responses)
Quaid-e-Azam	a. Player
Jahanger Khan	b. Prime Minister
Abul Qadeer Khan	c. Statesman
Parveen Shakir	d. Poet
Benazir Bhutto	e. Scientist
	f. Civil Servant

Topic 151: Uses of Matching Exercises

In this session student will learn:

1. Uses of Matching Exercises.

Uses of Matching Exercises

The typical matching exercise is limited to measuring factual information based on simple associations.

It is compact and efficient method of measuring such simple knowledge outcomes. Examples of relationships considered important by teachers, in variety of fields, including the following:

Example

Persons	Achievements
Dates	Historical events
Terms	Definitions
Rules	Examples
Symbols	Concepts
Authors	Titles of books
Foreign words	Local equivalents
Machines	Uses
Plants or animals	Classifications
Principles	Illustrations
Objects	Name of objects
	Functions

It is also been used with pictorial materials in relating pictures and words to identify positions on maps, charts and diagrams.

Regardless of the form of presentation, the student's task is essentially to relate two things that have logical association. This restricts use of matching exercise to small area of student's achievement.

Topic 152: Advantages and limitations of Matching Exercises

In this session student will learn:

1. Advantages and limitations of Matching Exercises.

Advantages of Matching Exercises

6. The major objective of matching exercise is its compact form, which makes it possible to measure a large amount of related factual material in a relatively short time.
7. Another advantage is ease of construction. Poor matching items can be rapidly constructed, but good matching item requires a high degree of skills.

Limitations of Matching Exercises

1. It is restricted to measurement of factual information based on rote learning.
2. It is highly susceptible to the presence of irrelevant clues.
3. Difficulty of findings homogenous material that is significant from the viewpoint of our objectives and learning outcomes.

SUGGESTIONS FOR CONSTRUCTING MATCHING EXERCISES

In this session student will learn:

1. Suggestions for constructing Matching Exercises.

Topic 153: Suggestions for constructing Matching Exercises

7. Use only homogeneous material in the single matching exercise.

Explanation: This is most violated rule of developing a matching exercise. Homogeneity is matter of degree. What is homogeneous to one group may be heterogeneous to another.

Topic 154: Suggestions for constructing Matching Exercises (Continue 1)

In this session student will learn:

1. Suggestions for constructing Matching Exercises.

Suggestions for constructing Matching Exercises

2. Include an unequal number of responses and premises, and instruct the students that responses may be used once, more than once, or not at all.

Explanation: This will make all the responses eligible for selection for each premise and will decrease the likelihood of successful guessing.

3. Keep the list of items to be matched brief and place the shorter responses on the right.

Explanation: It's easier to maintain homogeneity in a brief list. Four to seven items in each column seems best. Placing shorter responses on right also contributes to more efficient test tasking.

Instruction: List of premises includes list of prominent Pakistanis and list of responses gives their reason of fame. Match the given names with their respective reason of fame. There can be more than one reason of fame listed for one name and any of the given names may not correspond to any of the reasons of fame.

List A (Premises)	List B (Responses)
Quaid-e-Azam	a. Player
Jahanger Khan	b. Prime Minister
Abul Qadeer Khan	c. Statesman
Parveen Shakir	d. Poet
Benazir Bhutto	e. Scientist
	f. Civil Servant

Topic 155: Suggestions for constructing Matching Exercises (Continue 2)

In this session student will learn:

1. Suggestions for constructing Matching Exercises.

Suggestions for constructing Matching Exercises

4. Arrange the list of responses in logical order. Place words in alphabetical order and numbers in sequence.

Explanation: This will contribute to the ease with which student can scan the responses in the searching for the correct answers. It will also prevent them from detecting possible clues from the arrangements of the responses.

Example

Directions: On the line to the left of each historical event in column A, write the letter from Column B that identifies the time period when the event occurred. Each date in Column B may be used once, more than once, or not at all.

Instruction: List of premises includes list of prominent Pakistanis and list of responses gives their reason of fame. Match the given names with their respective reason of fame. There can be more than one reason of fame listed for one name and any of the given names may not correspond to any of the reasons of fame.

List A (Premises)	List B (Responses)
Abul Qadeer Khan	Civil Servant
Benazir Bhutto	Player
Jahanger Khan	Poet
Parveen Shakir	Prime Minister
Quaid-e-Azam	Scientist
	Statesman

Topic 156: Suggestions for constructing Matching Exercises (Continue 3)

In this session student will learn:

1. Suggestions for constructing Matching Exercises.

Suggestions for constructing Matching Exercises

5. Indicate the directions the basis for matching the responses and premises.

Explanation: By following this suggestion ambiguity and confusion can be avoided.

Testing time will be saved, student will not need to read through the entire list of premise and responses and then “reason out” the basis for matching.

6. Place all of the items for one matching exercise on the same page.

Explanation: This will prevent the students from missing the responses appearing on another page and generally adds to the speed and efficiency of test administration.

DEVELOPING SHORT ANSWER/COMPLETION QUESTIONS

In this session student will learn:

1. About developing short answer/completion questions.

Topic 157: Developing short answer/completion questions

There are two types of item formats which are included in the category of supply type: short answers and completion and fill in the blanks, under the range of objective test items. Both the short answer and completion items are forms of “supply” item that can be answered by a word, phrase, number or symbol. They only differ in form of presentation.

Short answers are presented in the form of direct questions while completion items are incomplete statements. Both of them can be answered with a word, phrase, number, or symbol. Such items are frequently used for measuring knowledge of terminology, specific facts, principles and procedures etc.

Advantages of short answer/completion questions

1. Teacher wants students to complete a large number of items in a fairly short time (unless they involve working complex mathematical problems).
2. Teacher wants to control the possibility of guessing. Since the student has to generate the answers.
3. The possibility of guessing the correct answers to these questions is greatly reduced when compared with true-false questions.

Limitations of short answer/completion questions

1. A potential problem with both Short-Answer and Completion items is that difficult to frame questions for one specific answer unless the items are well written.
2. Not usable to measure complex learning outcomes.

Topic 158: About developing short answer/completion questions

In this session student will learn:

2. About developing short answer/completion questions.

About developing short answer/completion questions

The short answer and completion items are forms of "supply" items both are supply type test items that can be answered by a word, phrase, number or symbol. Short answers are presented in the form of direct questions while completion items are incomplete statements.

Example:

Short Answer: What is the name of man who invented the light bulb? (Thomas Edison)

Completion: The name of the man who invented the light bulb is _____.

This category includes the problem in arithmetic, mathematics science and other areas whose solution must be supplied by the students.

Topic 159: Uses of short answer/completion questions

In this session student will learn:

1. Uses of short answer/completion questions.

Uses of short answer/completion questions

The short answer test item is suitable for measuring a wide variety of relatively simple learning outcomes. The following outcomes and test items some of its common uses.

Simple interpretation of data.

1. How many syllables are there in word Argentina? (4)
2. In the number 612, what value does the 6 represent? (600)
3. If an airplane flying northwest made a 180 degree turn, what direction would it be heading? (Southeast)

More complex interpretations can be made when the short answers item is used to measure the ability to interpret diagrams, charts graphs and pictorial data.

More notable exception to the general rule that short answer items are limited to measuring simple learning outcomes are found in the areas of mathematics and science.

Topic 160: Advantages of short answer/completion questions

In this session student will learn:

1. Advantages of short answer/completion questions.

Advantages of short answer/completion questions

1. Teacher wants students to complete a large number of items in a fairly short time (unless they involve working complex mathematical problems).
2. Teacher wants to control the possibility of guessing. Since the student has to generate the answers.
3. The possibility of guessing the correct answers to these questions is greatly reduced when compared with true-false questions.

Topic 161: Limitations of short answer/completion questions

3. A potential problem with both Short-Answer and Completion items is that difficult to frame questions for one specific answer unless the items are well written.
4. Not usable to measure complex learning outcomes.

SUGGESTIONS FOR CONSTRUCTING SHORT ANSWER/COMPLETION**QUESTIONS**

In this session student will learn:

1. Suggestions for constructing short answer/completion questions.

Topic 162: Suggestions for constructing short answer/completion questions

1. Word the item so that the required answer is both brief and specific.

Example:

Poor: An animal that eats the flesh of other animals is? (Carnivorous)

Better: an animal that eats the flesh of other animals classified as (Carnivorous)

Topic 163: Suggestions for constructing short answer/completion questions (Continue 1)

In this session student will learn:

1. Suggestions for constructing short answer/completion questions.

Suggestions for constructing short answer/completion questions

2. Do not take statements directly from textbooks to use as a basis for short answer items.

Example:

Poor: Chlorine is a _____. (Halogen)

Better: Chlorine belongs or a group of elements that combines with the metals to form salts.

It is therefore called as _____. (Halogen)

Topic 164: Suggestions for constructing short answer/completion questions (Continue 2)

In this session student will learn:

1. Suggestions for constructing short answer/completion questions.

Suggestions for constructing short answer/completion questions

3. A direct question generally more desirable than an incomplete statement.

Example:

Poor: Pakistan gained its independence in _____. (1947)

Better: When did Pakistan gained its independence? (1947)

Best: In what year did Pakistan gained its independence? (1947)

Topic 165: Suggestions for constructing short answer/completion questions (Continue 3)

In this session student will learn:

1. Suggestions for constructing short answer/completion questions.

Suggestions for constructing short answer/completion questions

4. If the answer is to be expressed in numerical units, indicate the type of answer.

Example:

Poor: if water melon weighs 1kg 200 grams each. How much 3 watermelons will weigh?
(3.5kg and 100 grams or 3600 gram)

Better: if water melon weighs 1kg 200 grams each. How much 3 watermelons will weigh?
(3.6kg)

Topic 166: Suggestions for constructing short answer/completion questions (Continue 4)

In this session student will learn:

1. Suggestions for constructing short answer/completion questions.

Suggestions for constructing short answer/completion questions

5. When completion items are used, do not include too many blanks or start with a blank space.

Also avoid asking trivial information in blank space.

Example:

Poor: (warm blooded) animals that are born (alive) and (suckle) their young are called (mammals).

Better: warm blooded animals that are born alive and suckle their young are called (mammals).

ANALYZING TEST ITEMS**Topic 167: Theories of test development**

In this session student will learn:

1. Theories of Test Development

Theories of Test Development

There are two widely perceived theories in psychosocial measurement, classical test theory (CTT) and item response theory (IRT) as both of these theories represents two different measurement frameworks.

1. Item difficulty
2. Item discrimination
3. Chance of guessing

Classical test theory is more focused on finding the true score of an individual on a test and called as true score theory

$$\text{Observed Score} = \text{True score} + \text{Error}$$

Item response theory is known as latent trait theory as its focus is to find the item characteristics as a function of ability.

Topic 168: Item Analysis: Information provided by item analysis

In this session student will learn:

1. About Item Analysis
2. Information Provided by Item Analysis

Item Analysis

In this phase statistical methods are used to identify any test items that are not working well.

If an item is too easy, too difficult, failing to show a difference between skilled and unskilled examinees, or even scored incorrectly, an item analysis will reveal it.

The two most common statistics reported in an item analysis are

1. Item difficulty (which is a measure of the proportion of examinees who responded to an item correctly).
2. Item discrimination (which is a measure of how well the item discriminates between examinees who are knowledgeable in the content area and those who are not).

An additional analysis that is often reported is the **distractor analysis**. The distractor analysis provides a measure of how well each of the incorrect options contributes to the quality of a multiple choice item.

In Item Analysis, analyses are conducted for the purpose of providing information about the items, rather than the test takers.

Item analysis results can be presented graphically or numerically.

The graphic presentation consists of response curves showing the test taker's estimated probability of a particular response as a function of the test taker's score on a measure of the general type of skills or knowledge measured by the item.

The numerical presentation includes statistics that measure the difficulty of the item and the extent to which it discriminates between strong and weak test takers.

Topic 169: Appropriate time for Item Analysis

In this session student will learn:

1. Appropriate time for Item Analysis

Appropriate time for Item Analysis

There are two stages at which items can be analyzed

- After administration, but before scoring
- After scores have been reported

After administration, but before scoring

Item analysis done at this stage of the process helps the test developers identify errors in the scoring key or serious defects in the items—errors or defects serious enough to exclude the item from scoring.

The item analysis enables test developers to focus their attention on a relatively small subset of items, helping them to make any necessary corrections in the scoring key before the test takers' scores are computed.

After scores have been reported

Item analysis done at this stage of the process helps test developers select items for reuse in future forms of the test

If the scores on a future form of the test will be linked to scores on the current form through common items

Item analysis is especially useful in selecting a set of common items that represents the full range of difficulty of the items on the test.

Topic 170: Test theories in item analysis

In this session student will learn:

1. Test theories in item analysis

Test theories in item analysis

1. Classical Test Theory (CTT)
2. Item Response Theory (IRT)

Classical Test Theory (CTT) and Item Analysis

Classical Test Theory (CTT) has relatively weak theoretical assumptions, which make it easy to apply in many testing situations

Relatively weak theoretical assumptions not only characterize CTT but also its extensions (e.g., generalizability theory).

CTT's major focus is on test-level information, item statistics (i.e., item difficulty and item discrimination) are also an important part of the CTT model.

Item Response Theory (IRT) and Item Analysis

“Item Response Theory” (IRT) presents a model for expressing the association between an individual's response to an item and the underlying latent variable (often called "ability" or "trait")

The latent variable, expressed as θ , is a continuous one-dimensional construct that explains the covariance among item responses

People at higher levels of latent trait have a higher probability of responding correctly or endorsing an item.

Topic 171: Item Difficulty in Classical Test Theory (CTT)

In this session student will learn:

1. Item Difficulty in Classical Test Theory (CTT)

Classical Test Theory (CTT) and Item Analysis

Regardless of the theoretical weakness of CTT in terms of its circular dependency of item and person statistics, practical solutions are determined within the framework of CTT for some otherwise difficult problems.

Item Difficulty in CTT

CTT does not raise a complex theoretical model to relate an examinee's ability to the probability of success on a particular item.

CTT collectively considers a pool of examinees and empirically examines their success rate on an item

This success rate of a particular pool of examinees on an item, well known as the p value of the item, is used as the index for the item difficulty

In CTT, the item difficulty index p (p value), is the proportion of examinees correct on an item, expresses item difficulty on an Item.

Item difficulty in CTT is simply calculated by the percentage of students that correctly answered the item as refers to the p value which range from .00 to 1.00.

The values closer to 1 more easy will be the item and conversely the values near to .00 the more difficult will be the item. The values lie somewhere in the middle i.e. 0.4 to 0.6 will refer to moderate item difficulty index.

Example of Item Difficulty in CTT

The percentage of students that correctly answered the item.

The range is from 0% to 100%, or more typically written as a proportion of 0.0 to 1.00. The higher the value, the easier will be the item.

Calculation: Divide the number of students who got an item correct by the total number of students who answered it.

Ideal value: Slightly higher than midway between chance (1.00 divided by the number of choices) and a perfect score (1.00) for the item.

For example, on a four-alternative, multiple-choice item, the random guessing level is $1.00/4 = 0.25$; therefore, the optimal difficulty level is $.25 + (1.00 - .25) / 2 = 0.62$.

P-values above 0.90 are very easy items and should be carefully reviewed based on the instructor's purpose.

For example, if the instructor is using easy "warm-up" questions or aiming for student mastery,

P-values below 0.20 are very difficult items and should be reviewed for possible confusing language, removed from subsequent exams, and/or identified as an area for re-instruction.

If almost all of the students get the item wrong, the problem is either with the item or students were not able to learn the concept.

If an instructor is trying to determine the top percentage of students that learned a certain concept, this highly difficult item may be necessary.

The optimal item difficulty depends on the question-type and on the number of possible distractors. Many test experts believe that for a maximum discrimination between high and low achievers, the optimal levels (adjusting for guessing) are:

1. 2 alternatives true and false = 0.75
2. 3 alternatives multiple-choice = 0.67
3. 4 alternatives multiple-choice = 0.63
4. 5 alternatives multiple-choice = 0.60

Items with difficulties less than 30% or more than 90% definitely need attention. Such items should either be revised or replaced. An exception might be at the beginning of a test where easier items (90% or higher) may be desirable.

Topic 172: Item Discrimination in CTT

In this session student will learn:

1. Item Discrimination in CTT

Item Discrimination in CTT

The ability of an item to discriminate between higher ability examinees and lower ability examinees is known as item discrimination

It is the relationship between how well students did on the item and their total exam score. 

The range is from -1.00 to 1.00.

The higher the value, the more discriminating the item. A highly discriminating item shows that the students who had high exams scores got the item correct students who had low exam scores got the item incorrect.

Items with discrimination values near or less than zero should be removed from the exam. This indicates that students who overall did poorly on the exam did better on that item than students who overall did well.

- Acceptable range: 0.20 or higher
- Ideal value: The closer to 1.00 the better

Item discrimination is also considered as the difference between the percentage correct for these two groups.

Item discrimination can be calculated by ranking the students according to total score and then selecting the top 27% and the lowest 27% in terms of total score

For each item, the percentage of students in the upper and lower groups answering correctly is calculated. The difference is one measure of item discrimination (IDis).

The formula is:

$$ID = (\text{Upper Group \% Correct}) - (\text{Lower Group \% Correct})$$

The following levels may be used as a guideline for acceptable items.

Negative ID is Unacceptable – check item for error

$$D = (UG - LG) / n.$$

The higher the discrimination index, the test item can discriminate better between students with higher test scores and those with lower test scores.

- D: 0.0 – 0.19 – poor item – to be Revised;
- D: 0.2 – 0.29 – acceptable;
- D: 0.3 – 0.39 – good;
- D: >0.4 – excellent

ITEM CHARACTERISTIC CURVE (ICC) IN ITEM RESPONSE THEORY

In this session student will learn:

1. Item Characteristic Curve (ICC) in Item Response Theory

Topic 173: Item Characteristic Curve (ICC) in IRT

To analyze items using IRT, the main thing need to consider is item characteristic curve (ICC).

The item characteristic curve is considered as the basic building block of item response theory;

Methodological properties of an ICC

1. The difficulty which under item response theory describes the item functions along the ability scale. For example an easy item functions among the low-ability examinees and a hard item functions among the high-ability examinees
2. The second property is discrimination, which describes how well an item can differentiate between examinees having abilities below the *item location* and those having abilities above the item location
3. An item characteristic curve is the graphical representation of the probability of answering an item correctly with the level of ability on the construct being measured.

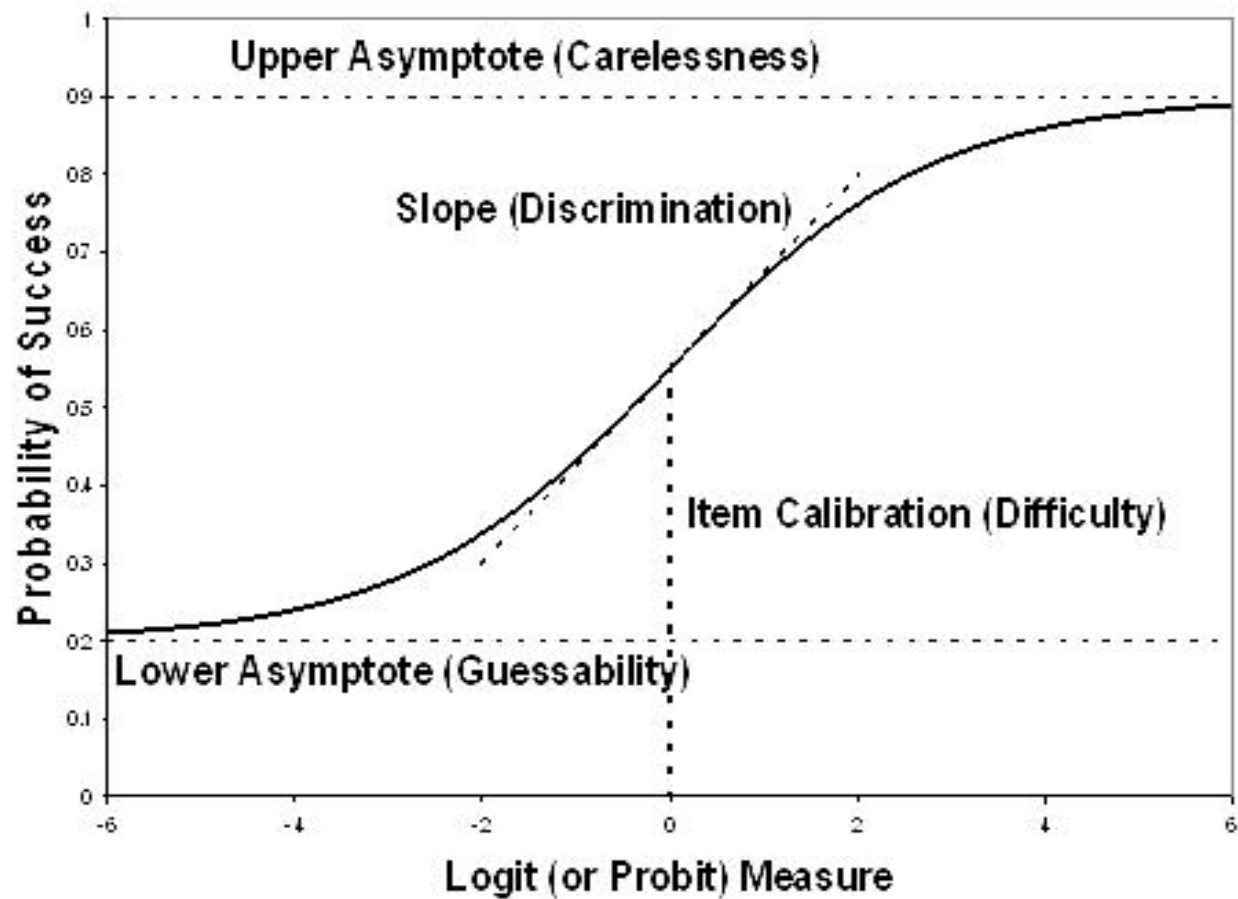
Item Characteristic Curve (ICC) in IRT

It gives a picture of:

- The item difficulty
- Discrimination power
- The probability of answering correctly by guessing

As the item difficulties are defined in relation to ability levels, on the same scale. If we know person ability then we can predict how that person is likely to perform on an item, without administering the item to the person.

A typical item characteristic curve (ICC)



Topic 174: Item Difficulty in Item Response Theory

In this session student will learn:

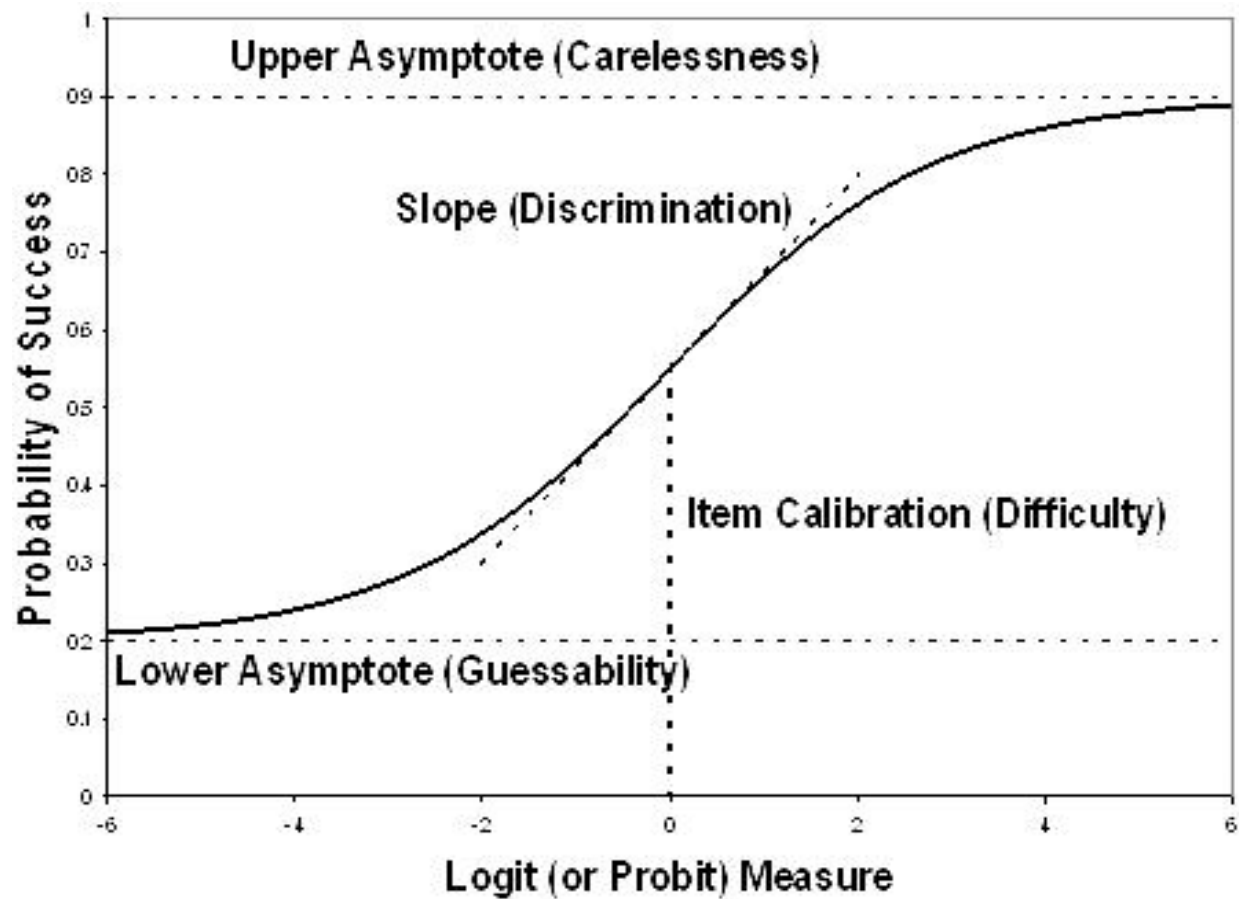
1. Item Difficulty in Item Response Theory

Item Difficulty in Item Response Theory

The application of Item difficulty in IRT is defined as the ability at which the probability of success on the item is .5 on a logit scale, which is also known as threshold difficulty.

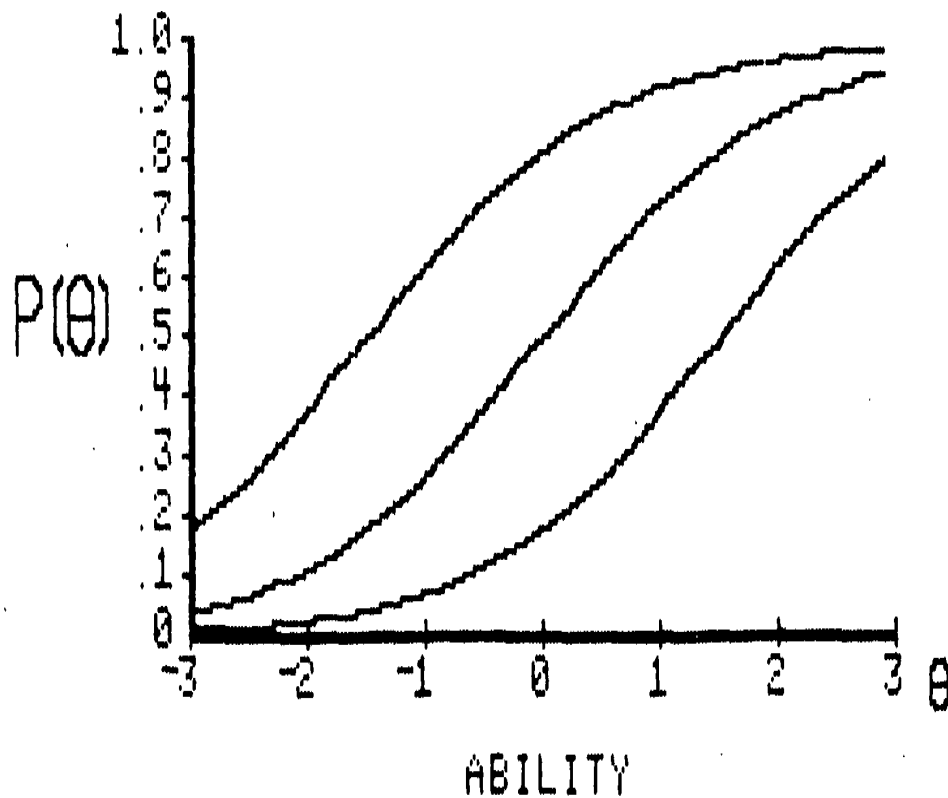
An item that has a high level of difficulty will be less likely to be answered correctly by an examinee with low ability than an item that has a low level of difficulty (i.e., an easy item).

A typical item characteristic curve (ICC)



Three item characteristic curves are presented on the same graph. All have the same level of discrimination but differ with respect to difficulty.

Three item characteristic curves are presented on the same graph. All have the same level of discrimination but differ with respect to difficulty.



The left-hand curve represents an easy item because the probability of correct response is high for low-ability examinees and approaches 1 for high-ability examinees.

The center curve represents an item of medium difficulty because the probability of correct response is low at the lowest ability levels, around 0.5 in the middle of the ability scale and near 1 at the highest ability levels.

The right-hand curve represents a hard item. The probability of correct response is low for most of the ability scale and increases only when the higher ability levels are reached.

Even at the highest ability level shown (+3), the probability of correct response is only 0.8 for the most difficult item.

Topic 175: Item Discrimination in Item Response Theory (IRT)

In this session student will learn:

1. Item Discrimination in Item Response Theory (IRT)

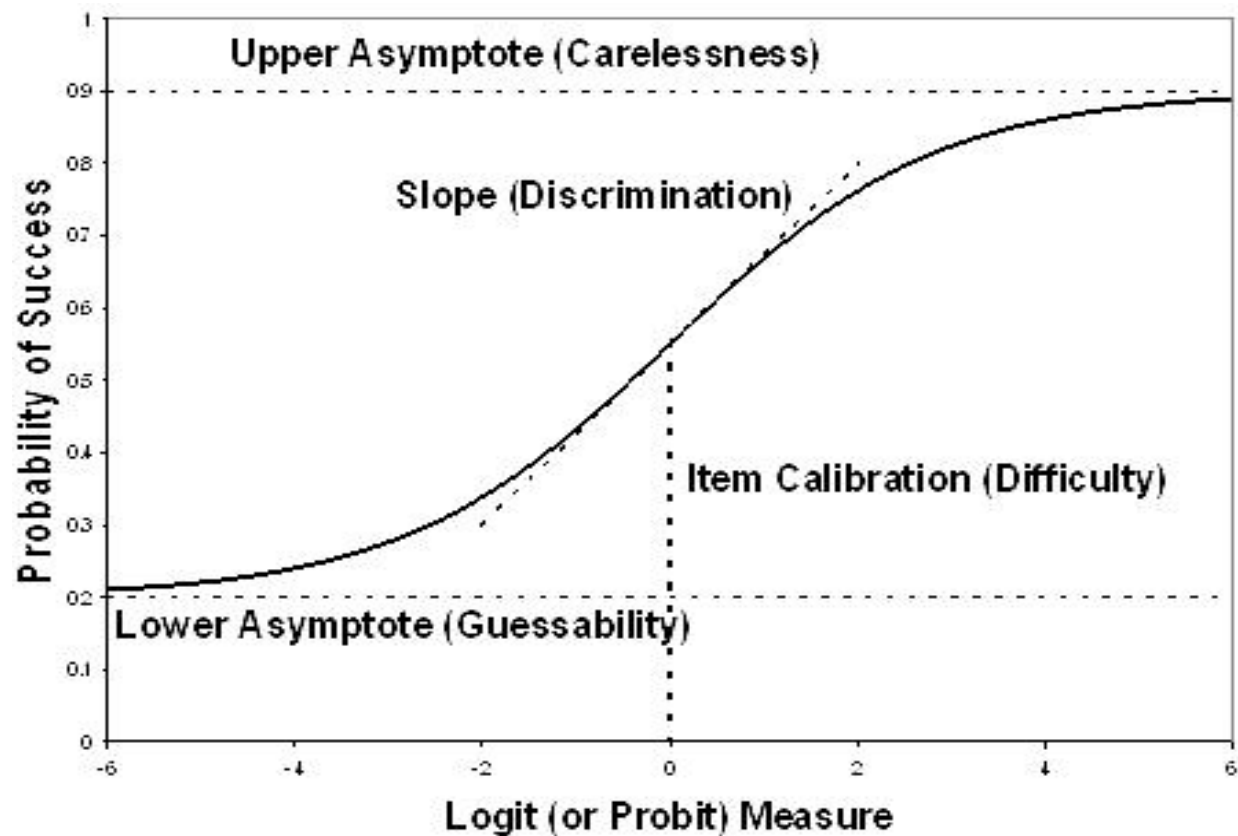
Item Discrimination in Item Response Theory (IRT)

The items on a test might also differ in terms of the degree to which they can differentiate individuals who have high trait levels from individuals who have low trait levels.

This property is reflected in the steepness of the item.

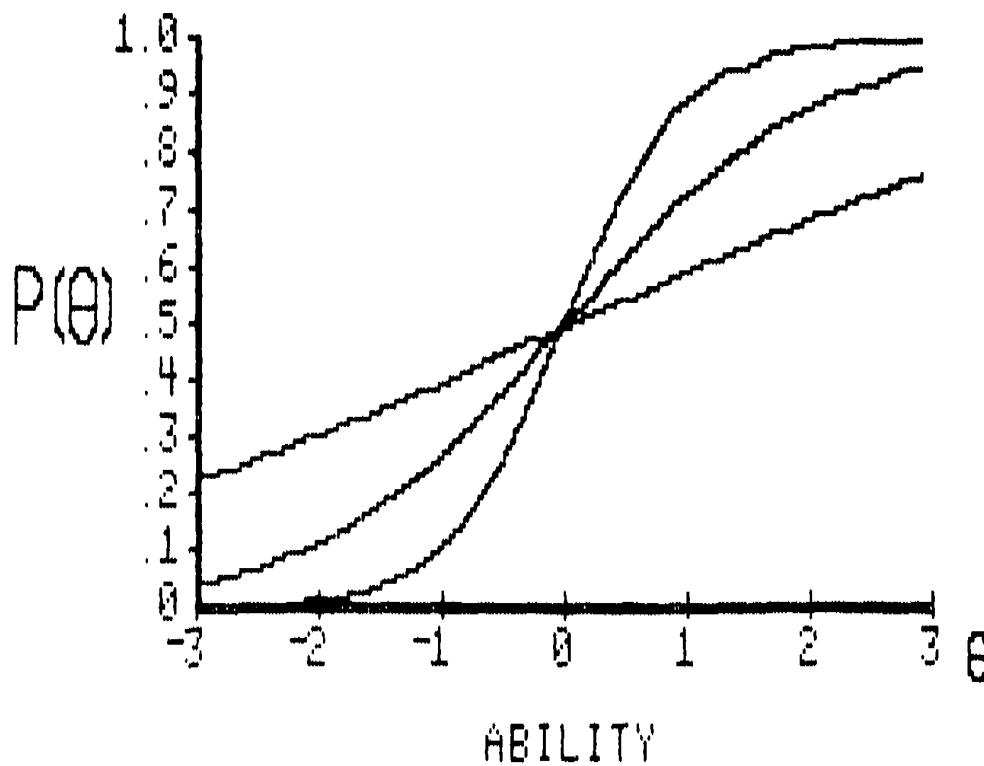
The steeper the curve, the better it discriminates.

A typical item characteristic curve (ICC)



Items with steep ICC are more discriminating as compare to relatively flatter curves.

The figure contains three item characteristic curves having the same difficulty level but differing with respect to discrimination.



The upper curve has a high level of discrimination since the curve is quite steep in the middle where the probability of correct response changes very rapidly as ability increases.

The figure contains three item characteristic curves having the same difficulty level but differing with respect to discrimination.

The middle curve represents an item with a moderate level of discrimination. The slope of this curve is much less than the previous curve and the probability of correct response changes less dramatically as the ability level increases.

The figure contains three item characteristic curves having the same difficulty level but differing with respect to discrimination.

The probability of correct response is near zero for the lowest-ability examinees and near 1 for the highest ability examinees. The third curve represents an item with low discrimination.

The figure contains three item characteristic curves having the same difficulty level but differing with respect to discrimination.

The third curve represents an item with low discrimination. The curve has a very small slope and the probability of correct response changes slowly over the full range of abilities shown.

Topic 176: Probability of Guessing in Item Response Theory (IRT)

In this session student will learn:

1. Probability of Guessing in Item Response Theory

Probability of Guessing in Item Response Theory

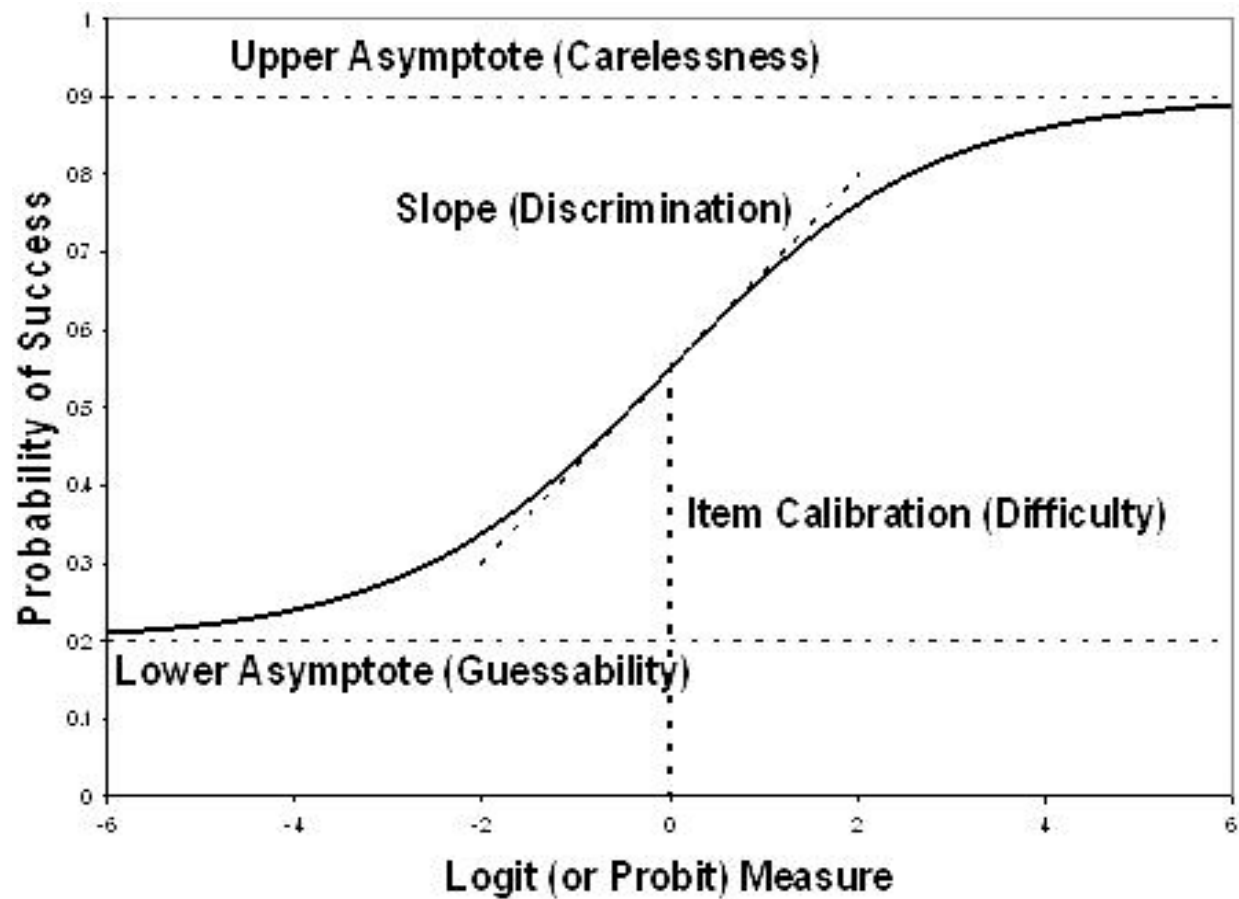
Guessing means giving an answer or making a judgment about something without being sure of all the facts.

Guessing is a standard test-taking strategy presented to examinees taking a multiple choice assessment.

If test scores are based simply on the number of questions answered correctly, then a random guess increases the chance of a higher score.

In IRT this parameter of an item is also known as G (guessing) parameter which allow to detect the potential possibility of guessing in an item

A typical item characteristic curve (ICC)



Examinees guess because they do not have adequate knowledge or ability to provide correct answer

There are two types of guessing

- Blind guessing
- Informed guessing

Blind guessing:

Where an examinee chooses an answer at random among the alternatives offered.

Informed guessing:

Where the examinee draws upon all his knowledge and abilities to choose the answer most likely to be correct.

Item writers should be conscious of guessing and not write item that could be prone to guessing.

IRT method of item analysis should be employed to eliminate those items prone to guessing

ASSEMBLING TEST**Topic 177: Concept and importance of assembling**

In this session student will learn:

1. Concept and Importance of Assembling

We have spent a lot of time in learning writing instructional objectives, table of specification, selection of questions format, writing questions, aligning questions and objectives to ensure GOOD TEST.

But imagine after all this hard work, if care is not taken while assembling all good work to a test actually presented to students or test administration is not done the way it should be then whole hard work will be wasted.

Issues in test administration

1. Cheating
2. Poor testing conditions
3. Test anxiety
4. Errors in test scoring procedure.

What to do?

It is equally important to control all the factors other than test itself, to collect trustable evidence of student learning by addressing test administration issues.

The way in which the test is administered is very important to meet the goal of producing highly valid, reliable results.

Once a test is ready then next step is to administer it.

Teacher has to help the students psychologically by maintaining a positive test-taking attitude, clarifying the rules, penalties for cheating, reminding them to check their copies, minimizing distractions and giving time warnings.

Cheating, poor testing conditions, and test anxiety, as well as errors in test scoring procedures contribute to invalid test results.

Accurate achievement data are very important for planning curriculum and instruction. 

Test scores that overestimate or underestimate students' actual knowledge and skills cannot serve these important purposes.

So it is worth a little more time to properly assemble and administer a test.

Topic 178: Assembling Test: Recording items

In this session student will learn:

1. Recording items

The preparation of test items is greatly facilitated if the items are properly recorded.

Recording test items

The card contain information concerning the instructional objectives, specific objective, difficulty index, discrimination index and the content measured by the item should be prepared for each item to maintain its record.

Topic 179: Assembling Test: Packing the test

In this session student will learn:

1. Packing the test

Once you have measurable instructional objectives, test blueprint, written test items matching instructional objectives, so you are ready to

- package the test and
- reproduce the test

Assembling Test (Packaging the Test)

Packing of test involves:

1. Grouping together items of similar format

2. Arranging test items from easy to hard
3. Properly spacing items
4. Keeping items and options on the same page
5. Position illustration near description (if diagram given)
6. Randomness of answer key
7. Determine how students record answers (separate sheet or same sheet)
8. Providing space for test taker's details
9. Proofread the test (typographical and grammatical error)

10. Test directions

1. Grouping together items of similar format

Makes easy to understand

Save response time

Once set of instruction per format is enough

2. Arranging test items from easy to hard

Increases the possibility of good start for poor starters

Build confidence

Motivates

Reduces test anxiety

Topic 180: Assembling Test: Packing the test (Continue 1)

In this session student will learn:

1. Packing the test

Following are some more points.

3. Space the item for easy reading

Enough space between lines and questions

Suitable answer space

Standard font type and size

4. Keeping items and options on the same page

Minimizes the likelihood of misprint

Saves respondent from unnecessary hassle

Save test time.

5. Position illustration near description (if diagram given)

Put all related questions on same page

Diagram above the question

Topic 181: Assembling Test: Packing the test (Continue 2)

In this session student will learn:

1. Packing the test

Following are some more points.

6. Randomness of answer key

Check key, equal distribution of correct answer, use all options equally

Avoid guessing

Avoid confusion

7. Determine how students record answers (separate sheet or same sheet)

Brings uniformity attempt with clarity

Prepares for standardized tests

8. Providing space for test taker's details

Identification ensured

Makes easy to combine different parts of test (if applicable)

Topic 182: Assembling Test: Packing the test (Continue 3)

In this session student will learn:

1. Packing the test

Following are some more points.

9. Proofread the test (typographical and grammatical error)

Save time during test

Avoid clues/confusion

Increase confidence in test

10. Test directions

- Conveys expectation
- Help in time management
- Conveys scoring policy and priorities

Topic 183: Assembling Test: Reproducing the test

In this session student will learn:

1. Reproducing the test

In schools it is usually by photocopying and quality of test copies may vary considerably.

Reproducing the Test

Reproduction of test involves:

1. Knowing the photocopying machine
 - Expert operator
 - Toner quality
 - Atomization facility in machine
 - Ensure uniformity of legibility, shades etc.
2. Specifying copying instructions
 - Randomly checking of every 19th copy
 - Paper size
 - Margins
 - Ordering of pages
 - Stapling
 - Packing
3. Filing original test
 - Master copy for reference and reuse
 - Use as reference in random checking
 - Keep with you during test

ADMINISTERING TEST**Topic 184: Things to remember when administering test**

In this session student will learn:

1. Things to remember when administering test

Test is ready, get students ready.

1. Maintain a positive attitude
2. Maximize achievement motivation
3. Equalize advantages
4. Avoid surprises
5. Clarity the rules
6. Rotate distribution
7. Remind students to check their copies
8. Monitor students
9. Minimize distributions
10. Give time warning
11. Collect test uniformly

Maintain a positive attitude

1. Assure test is from taught
2. Students convenience and limitations addressed
3. Guide to reduce anxiety
4. Eliminate non-actors affecting achievement

Maximize achievement motivation

1. Encourage to do best, mitigate the fear
2. Highlight value of giving best
3. Reduce panic
4. Encourage serious thinking

Topic 185: Things to remember when administering test (Continue 1)

In this session student will learn:

1. Things to remember when administering test

Equalize advantages (test-wise)

1. Discourage guessing
2. Discourage no answer
3. Discourage multiple answers
4. Instructions like, don't spend more time on difficult items, do easy questions first, must read after completing, etc.

Avoid surprises

Advance notice of tests, discuss test structure, and ways of preparing for test

1. Brings out stable achievement
2. What students can perform the best

Topic 186: Things to remember when administering test (Continue 2)

In this session student will learn:

1. Things to remember when administering test

Clarity the rules

1. Time limits
2. Restroom policy
3. Special requirement of students
4. Test distribution
5. Consulting others
6. Borrowing things

Rotate distribution

1. Left to right, right to left
2. Front to back, back to front
3. Multiple person distribution
4. Starting at same time

Remind students to check their copies

1. Order of pages
2. Number of pages
3. Quality of print
4. Replacement if needed before start of test
5. Ensuring recording of name and date

Topic 187: Things to remember when administering test (Continue 3)

In this session student will learn:

1. Things to remember when administering test

Monitor students (test invigilation)

1. Penalties of cheating
2. Disturbing others
3. Seating position/posture
4. Protecting test from others
5. Cheating material handing
6. Jurisdiction of invigilation staff

Minimize distributions

1. Avoid noise
2. Avoid instruction after start of test
3. Avoid in-out movement
4. No talk between invigilation staff- silence

Time warning and test collection

1. Half time
2. 2/3 time
3. 30, 15 and 5 min reminder
4. Use minimum words to announce time warning
5. Give time to close
6. Announce “stop writing”
7. Collecting test in reverse order of distribution

STANDARDIZED TESTING**Topic 188: Standardized Achievement Test**

In this session student will learn:

1. Standardized Achievement Test

Achievement Test

A standardized achievement test a fixed set of items to measure defined achievement domain, specific direction for administering and scoring test, and norms based on representative groups of individuals.

Most published achievement test are called standardized achievement tests. These typically are norm referenced tests. Quite a few criterion referenced achievement tests are also been published.

Achievement tests are used as part of broader assessment system or alone. They provide relatively inexpensive means of measuring broad achievement goals.

Standardized achievement tests are often customized to include characteristics of both norm and criterion referenced test.

Standard content and procedure makes it possible to give an identical test to individuals in different places at different times.

Equivalent forms are included in many standardized tests, which make it possible to repeat the test without fear that the test takers will remember the answers from first testing. 

Topic 189: Characteristics of Standardized Achievement Test

In this session student will learn:

1. Characteristics of Standardized Achievement Test

Characteristics of Standardized Achievement Test

1. The test items are of highly technical quality. They have been developed by educational and test specialists, pretested and selected on the basis of difficulty discriminating power, and relationship to a clearly defined and rigid set of specifications.
2. Directions for administering and scoring are so precisely stated that the procedures are standard for different users of test.
3. Norms based on national samples of students in the grade where the test is intended for use are provided as aids in interpreting the test scores.
4. Equivalent and comparable forms of the test are usually provided, information concerning the degree to which the forms are comparable.
5. A test manual is used as guides for administering the test, evaluating its technical qualities, and interpreting and using the results.

Topic 190: Standardized Test versus Informal Classroom Test

In this session student will learn:

1. Standardized Test versus Informal Classroom Test

Standardized Test versus Informal Classroom Test

Standardized tests and carefully constructed test are common in many ways. The main differences between the two types are:

1. The nature of the learning outcomes and the content measured.
2. Quality of test items
3. Reliability of the tests
4. Procedure for administering and scoring
5. Interpretation of scores

The standardized tests inflexibility makes it less valuable for those purposes for which the informal classroom tests is so admirably suited.

1. Evaluating the learning outcomes and content unique to particular class or school

2. Evaluating student's day to day progress and their achievement on the work units or varying sizes.
3. Evaluating knowledge of current developments in the rapidly changing content areas such as science and social studies.

Topic 191: Standardized test batteries and guidelines for SAT batteries

In this session student will learn:

1. Standardized test batteries and guidelines for SAT batteries

Standardized test batteries

Standardized achievement tests are frequently used in the form of survey test batteries. A battery consists of a series of individual tests all standardized on same national sample of students. Test batteries include subjects according to educational level of students.

Guidelines for SAT batteries

Achievement test batteries focus on the basic skills measuring important outcomes of the program.

Content oriented test in basic achievement batteries have broad coverage but limited sampling in each content area and may tend to become outdated more quickly.

The selection of battery should be based on its relevance to the schools objectives. Diagnostic batteries should contain a sufficient number of test items for each type of interpretation to be made.

Topic 192: SAT in specific area, separate content oriented test, reading test

In this session student will learn:

1. SAT in specific area, separate content oriented test, reading test

SAT in specific area

There are separate tests designed to measure achievement in specific areas. This includes tests of course content, reading tests.

Separate content-oriented tests

Attention should be directed on appropriateness for particular course in which it is to be used.

Standardized tests of specific knowledge are seldom as relevant and useful as well constructed teacher made test in same area.

Reading test

Such tests commonly measure

1. Vocabulary
2. Reading comprehension
3. Rate of reading

No two reading tests are exactly alike. They differ in the material that the reader is expected to comprehend, in the specific reading skills tested and in the adequacy with which each skill is measured.

Reading survey test measure only some of the outcomes of reading instruction, the mechanics of reading is measured by diagnostic reading tests.

In addition to matching the objectives of instruction, test selection should also take into account all the possible uses to be made of the results.

INTERPRETING TEST SCORES**Topic 193: Concept of Interpreting Test Scores**

In this session student will learn:

1. Concept of Interpreting Test Scores

Concept of Interpreting Test Scores

Test scores can be interpreted in the terms of:

1. Types of tasks that can be performed (Criterion referenced or standard based)
2. Relative position held in some reference group (norm reference)

Interpreting test scores

The properties of physical measuring scales lacks in educational measurement. A student who receives a score of zero does not have zero knowledge of that subject.

A true zero point in achievement cannot be usually established.

60 correct items on a simple vocabulary test does not have the same meaning as 60 items correct on more difficult one or any other subject or study skills. However, this arbitrary starting point prevents us from claiming that a zero indicates no achievement at all or 100 represents twice the achievement of a score of 50.

Topic 194: Method of Interpreting Test Scores

In this session student will learn:

1. Method of Interpreting Test Scores

Raw scores

A raw score is a numerical summary of a student's test performance, it is not very meaningful without further information.

1. A raw score is simply the number of points received on a test.

2. “0” in raw scores does not mean absence of trait.

If a student in our class answered 35 items correctly on arithmetic test, and therefore has a raw score of 35. This statement creates a lot of questions in our mind.

1. What is 35 mean?
2. Is that a good score?
3. How many items were there on the test?
4. What kind of arithmetic problems were presented?
5. How difficult was test?
6. What is student’s position in his class?

Answer to these or similar questions are needed to make any raw score meaningful.

Raw score can be converted into:

1. A description of specific tasks that the student can perform (Criterion reference interpretation)
2. Some type of derived scores to indicate the student’s relative position in a clearly defined reference group.

Topic 195: Criterion-referenced Interpretation

In this session student will learn:

1. Criterion-referenced Interpretation

Criterion-referenced Interpretation

In case of standardized test, interpretation can only be made with reference to the constructions on which test was based by the developer.

This is primarily useful in mastery testing where a clearly defined and delimited domain of learning tasks can be most readily obtained.

Such interpretations must be made with caution because these tests were typically designed to discriminate among individuals rather than describe the specific tasks they can perform.

Criterion-referenced interpretations of test results are most meaningful when the test has been specifically designed for this purpose e.g. designing a test that measures a set of clearly stated learning tasks.

Topic 196: Guidelines for Criterion-referenced Interpretation

In this session student will learn:

1. Guidelines for Criterion-referenced Interpretation

Guidelines for Criterion-referenced Interpretation

Are the achievement domains (objective or content clusters) homogenous, delimited, and clearly specified? If not, avoid specific descriptive statements.

Are there enough items for each type of interpretation? If not, make tentative judgment and or combine items into larger content clusters for interpretation.

In constructing the test, were the easy items omitted to increase the discrimination among individual? If so, remember that descriptions of what low achievers can do will be severely limited. 

Does the test use selection type items only? If so, keep in mind that a proportion of correct answers may be based on guessing.

Do the test items provide a directly relevant measure of the objectives? If not, base the interpretation on what the items actually measured.

Example: “ability to identify misspelled words” rather than “ability to spell”. They are related but not the same process.

Topic 197: Norm-referenced Interpretation

In this session student will learn:

1. Norm-referenced Interpretation

Norm-referenced Interpretation

This interpretation tells us how an individual compares with other persons who have taken the same test e.g. ranking of scores from highest to lowest and to note where an individual's score falls.

Standardized tests typically have been designed for norm-referenced interpretations which involves converting the raw scores to derived scores by means of table of norms.

Derived Scores

A derived score is a numerical report of test performance on a score scale that has well-defined characteristics and yields normative meaning.

Criteria Most Desired in Norms

Test norms should be

1. Normal.
2. Representative.
3. Up to date.
4. Comparable.
5. Adequately described

Cautions in Interpreting Test Scores

A test score should be interpreted

1. In terms of the specific test form which it was derived.
2. In light of all of the student's relevant characteristics.
3. According to the type of decision to be made.
4. As a band of scores rather than a specific value.

A test score must be verified by supplementary evidence.

HIGH STAKE TESTING**Topic 198: High Stake Testing**

In this session student will learn:

1. High Stake Testing

Why does it matter?

The use of test and assessment is to make decisions that are of prominent educational, financial, or social impact.

Decision based on high stake testing

1. Promotion to next grade
2. Awarding of diploma or degree
3. Evaluation of school performance
4. Incentives and accountability of school staff

Topic 199: High Stake Testing in Pakistan

In this session student will learn:

1. High Stake Testing in Pakistan

High Stake Testing in Pakistan

In school education in Pakistan, high stake testing is conducted at each level from primary to higher secondary.

1. Grade 5 and 8 examination by Punjab Examination Commission.
2. Grade 10 and 12 examination by BISEs

Test construction in High Stake testing

1. The format of items are same as used in CRT in classroom
2. Item of developed by professional employed in dedicated organization
3. Item banks are developed
4. Psychometric properties of item are tested

5. The process goes on round the year

Criticism on high stake testing

High stake tests have same issues as classroom test but much larger impact and consequences.

Topic 200: Recommendations for Effective HST

In this session student will learn:

1. Recommendations for effective High Stake Testing

Recommendations for effective High Stake Testing

- Protection against high stake decisions based on single test
- Adequate resources and opportunity to learn
- Validation for each intended separate use
- Full disclosure of likely consequences
- Alignment between test and curriculum
- Validity of passing scores and achievement levels
- Appropriate attention towards language difference between examinees
- Appropriate attention towards examinees with disabilities
- Careful adherence to explicit rules for determining which students are to be tested
- Ongoing evaluation for intended and unintended effects of high stake testing

Topic 201: Preparation for Effective HST

In this session student will learn:

1. Preparation for effective High Stake Testing

Preparation for effective High Stake Testing

1. Focus on task, not on your feelings towards it
2. Inform presents and students about importance of the test.
3. Teach test taking skills as part of regular instruction
4. As the test day approaches respond to students questions openly and directly
5. Take advantage of whatever preparation material is available

Topic 202: Institutions involve in assessment

In this session student will learn:

1. Institutions involve in assessment

Institutions involve in assessment

1. Examination commission
2. Board of intermediate and Secondary education (BISEs)
3. Board of Technical Education

Scope of Examination Bodies

1. Examination commission conduct examination at grade 5 and 8 level
2. BISEs hold SSC and HSSC annual examinations
3. Boards of Technical Education conduct examination of various diplomas and certificates etc.

Inter board committee of chairman (IBCC) is a forum to discuss matters relating to development and promotion of intermediate and secondary education and technical education in Pakistan.

For high stake examination at primary and elementary level Baluchistan and Punjab has established examination commissions

National Education Assessment System (NEAS) provides a countrywide picture of situation of education and report to federal policy makers.

Topic 203: Institutions involve in assessment II

In this session student will learn:

1. Institutions involve in assessment

Following institutions are involved in assessment.

1. National Education Assessment System (NEAS)
2. Provincial Education Assessment Centre (PEAC) in KPK and Sindh
3. Examination Commission (Punjab and Baluchistan)

National Education Assessment system (NEAS) works for promoting quality learning among children of Pakistan by carrying out fair and valid national assessment.

Objectives of NEAS

1. Informing policy
2. Monitoring standards
3. Identifying correlation of achievement
4. Directing teachers' efforts and raising students' achievement

The areas centers of NEAS were established in all provinces and areas. They are still working except in Punjab which was merged in PEC.

Topic 204: National Education Assessment System

In this session student will learn:

1. National Education Assessment system

National Education Assessment system

The National Education Assessment System has been institutionalized in Pakistan at national level with the cooperation of provincial and area Assessment Centers.

NEAS was established as five years development project with the financial assistance of the World Bank and Development for International Development (DfID) in year 2003.

NEAS is subordinate office under the ministry of Federal Education & Professional Training.

Objectives of NEAS

1. Informing policy: the extent to which geography and gender are linked to inequality in student performance.
2. Monitoring standards: How well the curricula are translated into knowledge and skills
3. Identifying correlation of achievement: the principal determinants of student performance
4. Directing teachers' efforts and raising students' achievement: assisting teachers to use data to improve student performance.

Working of NEAS

Every year NEAS conduct large scale assessment at primary and elementary level. The content areas it usually cover are reading and writing of language, mathematics and science.

Completion of four cycles of Assessment on a large scale i.e. in 2005, 2006, 2007 and 2008. The assessment results of cycle in 2016 is about come.

GRADING AND REPORTING**Topic 205: Reporting**

Report cards help track a child's progress and let both the teacher and parents know what the child is excelling in and what they need to work on. Comments and observations can provide tremendous insight into the child's wellbeing and help foster a supportive network of teachers and family members.

Reports should:

1. tell the story of what it is like for a child at this setting
2. be written in short sentences, using clear, simple language so that everyone can understand them
3. use correct grammar, punctuation and spelling and be free from jargon
4. be written in bullet points or prose where required in the template
5. spell out the most important findings, key strengths and weaknesses and make clear recommendations for improvement
6. avoid using phrases directly from the handbook, inspection criteria and grade descriptors or the statutory framework
7. take care not to identify children where numbers are small.

Topic 206: Teachers Comments for Specific Subjects

Your subjects will differ depending on what your school emphasizes. Keep comments short, yet detailed and use as many templates as you need to explain the child's experience with each specific subject. You can write:

- He/She seems to really enjoy (specific subject) and is excelling in (specific subject-related skill).
- He/She seems distracted during (specific subject) as evidenced by (insert supporting behavior).
- He/She seems to like learning about (specific subject or topic) and has been a pleasure to teach.
- He/She appears to really like (specific subject) and could use some extra help with (insert specific topic).
- He/She is very enthusiastic when (subject) is brought up and consistently participates during discussions.
- He/She has come up with very creative answers during (subject) and I've enjoyed teaching him/her.

- He/She has been a joy to have in class and especially excels in (enter several subjects if applicable).
- He/She tends to get antsy during (subject) and may need a little extra help understanding (specific subject-related topic).
- He/She loves listening to (insert subject topic) and actively shares his/her thoughts.
- He/She seems to enjoy (insert subject) and has a deep understanding of the material.
- He/She shows advanced abilities in (subject) and would benefit from (insert recommendation).

Topic 207: Improvement Comments

Letting a parent or parents know what the child needs help with can accelerate their ability to find appropriate solutions. Doing so early on can help the little one improve upon necessary skills before heading to kindergarten. You can write:

- It seems like (child's name) could use some help with (insert behavior or subject matter).
- I've noticed that (child's name) consistently struggles with (insert behavior or subject matter) because he/she has been (give examples).
- (Child's name) would benefit from some extra practice with (insert behavior or topic).
- More often than not, (child's name) appears to have difficulties with (insert behavior or topic).
- It would help (child's name) improve upon (skill or behavior) if it were practiced a bit more at home.
- I've noticed (child's name) seems to struggle with (behavior). We will continue to work on this at school and it would be great if (child's name) could practice these skills at home as well.
- (Child's name) seems nearly ready for (insert skill) but still could use some extra practice getting there.
- (Child's name) could use a brush up on (skill or behavior).
- There's been a few instances where I've seen (child's name) have a challenging time with (skill).
- Although (child's name) has made great progress with (skill or behavior), he/she could still use some extra help understanding it a bit better.

Topic 208: Praise Comments

Praise comments can be really fun to write. Highlight what each child is doing well by writing:

- (Child's name) is excelling in (list subjects) and consistently participates in class.
- (Child's name) is eager to lend a helping hand and gets along with his/her classmates.
- (Child's name) works well with others and is liked amongst his/her peers.

- He/She has been a joy to teach and always comes to class with a smile.
- (Child's name) is incredibly creative and consistently impresses me with his/her (skills).
- (Child's name) consistently excels in (behaviors) and has been really fun to teach.
- (Child's name) is smart, creative, and consistently kind to his/her classmates.
- (Child's name) learns quickly and demonstrates (skills) at an advanced level.
- (Child's name) has picked up (skills) very quickly and shows an eagerness to learn.
- (Child's name) always participates in class and has great problem-solving skills.
- (Child's name) handles misunderstandings well and is great at communicating.
- (Child's name) does very well at identifying his/her feelings and communicating them in a calm, mature way.
- (Child's name) shows an interest in learning new topics and consistently makes insightful observations.

Topic 209: Comments for Behavioral Issues

Although it can be tricky to write about behavioral issues on a report card, it is important information for the child's caregiver to understand. You can say:

- He/She seems to struggle with sharing toys and learning materials with his/her peers.
- He/She is working on raising his/her hand and has shown some improvement.
- I've noticed (child's name) seems to have a difficult time following directions. This typically happens during (activity).
- (Child's name) has had a challenging time keeping his/her hands to him/herself. This happens (amount) times a day.
- (Child's name) is struggling to complete projects in entirety. This is something we will continue to work on in class.
- Child's name) tends to throw tantrums when (insert example). We are actively working on emotional expression with him/her.
- Child's name) has shown some aggression towards a few classmates during playtime. Examples of this include (insert examples). We are working on using words instead of touch.
- During one occasion, (child's name) grabbed a toy from another child. Since then we have seen great improvement, but are still working on sharing.

Topic 210: Socializing Comments

Noting how each child interacts with their peers and adults can help paint a thorough picture for the child's parent. You can write:

- (Child's name) tends to keep to him/herself and often prefers to observe his/her classmates.
- (Child's name) loves to engage with his/her peers and plays well with others.

- (Child's name) seems to struggle with connecting with his/her peers.
- (Child's name) enjoys spending time with his/her peers and reports having a good time with his/her friends.
- (Child's name) shares well with friends and gets along with everyone in class.
- (Child's name) seems to have a hard time getting along with his/her peers.
- (Child's name) has developed close friendships with several classmates and prefers spending time with one or two friends at a time.

Topic 211: Group Play Observations

Group projects or play can reveal a lot about a child's ability to collaborate with peers. On their report card you can note:

(Child's name) does well working with others and tends to take on a leadership role.

(Child's name) seems to enjoy collaborating with others during group projects.

- He/She gets along well with others and is very interactive during group play time.
- He/She tends to keep to themselves during group play time.
- He/She seems to prefer listening to others' ideas during group projects.
- He/She is typically withdrawn during group projects and tends to prefer playing one on one.
- He/She listens to instructions well during group activities and follows through with the assignment.
- He/She collaborates well with others and is respectful when his/her peers share their opinions.
- He/She tends to struggle with group activities and usually prefers to spend time playing alone.
- He/She reports liking group activities and thrives in this environment.

Topic 212: Leadership Comments

Although not all children tend to take on leadership roles, it can be helpful for parents to know which collaboration style their child tends to gravitate towards. On their report card you can say:

- (Child's name) tends to enjoy being in charge during group activities and projects.
- He/She shows great leadership skills, especially during (insert activity).
- He/She tends to shy away from leadership roles and prefers to observe his/her classmates.
- He/She usually takes on leadership roles but also seems to enjoy collaborating with others.

- He/She actively participates in group activities and tends to take charge when offered the opportunity to do so.
- (Child's name) demonstrates impressive leadership skills and is consistently respectful of other's opinions.
- He/She has a take charge spirit and enjoys doing group activities.

Topic 213: Referral Comments

Because you spend so much time with each child, you may notice that a few may benefit from a referral. These can be included on their report card, along with some supporting examples. You can write:

- (Child's name) seems to struggle with (specific) subject and would benefit from having a tutor provide a little extra help.
- (Child's name) is having a hard time reading and writing and may benefit from an evaluation with a medical psychologist.
- (Child's name) is struggling socially. Some examples of this include (give examples). You may want to consider contacting a child psychologist or therapist for an evaluation.
- (Child's name) appears anxious throughout the day, especially during (mention examples). You may want to take him/her to a child psychologist or therapist for an evaluation so we can increase his/her comfort level. Let me know if you'd like to discuss this further or have any questions and I'm happy to help.
- (Child's name) seems to have a mild reaction to (list food or beverage). It would be a good idea to consult with his/her pediatrician to make sure there isn't an allergy that we should know about.

Writing Useful Report Card Comments

Take your time writing each child's report card. Even though the task may feel tedious, remember that you are providing incredibly helpful and insightful information for the child and their family to build upon. 

CLASSROOM INCENTIVES**Topic 214: Classroom Incentives**

Classroom incentives are powerful tools teachers can use to maintain high expectations and reward expected behavior. Students will show interest and raise their participation in the everyday classroom tasks, responsibilities and learning. Incentives for students motivate them to be more productive because they create a feeling of pride and achievement. Being successful makes you happy.

Topic 215: Parents role in early education

Children's development of the cognitive and social skills needed for later success in school may be best supported by a parenting style known as responsive parenting. Responsiveness is an aspect of supportive parenting described across different theories and research frameworks (e.g. attachment, socio-cultural) as playing an important role in providing a strong foundation for children to develop optimally. Parenting that provides positive affection and high levels of warmth and is responsive in ways that are contingently linked to a young child's signals ("contingent responsiveness") are the affective-emotional aspects of a responsive style. These aspects, in combination with behaviours that are cognitively responsive to the child's needs, including the provision of rich verbal input and maintaining and expanding on the child's interests, provide the range of support necessary for multiple aspects of a child's learning.

Acceptance of the child's interests with responses that are prompt and contingent to what the child signals supports learning, in part, by facilitating the child's development of mechanisms for coping with stress and novelty in his or her environment. With repeated positive experiences, a trust and bond develop between the child and parent that in turn allow the child to ultimately internalize this trust and then generalize their learning to new experiences. This sensitive support promotes the child's continued engagement in learning activities with his or her parent. Thus, these affective-emotional behaviours communicate the parent's interest and acceptance, fostering self-regulation and cooperation, critically important behaviours for effective learning to occur. From a socio-cultural viewpoint, cognitively responsive behaviours (e.g. maintaining versus redirecting interests, rich verbal input) are thought to facilitate higher levels of learning because they provide a structure or scaffold for the young child's immature skills, such as developing attentional and cognitive capacities. Responsive behaviours in this framework promote joint engagement and reciprocity in the parent-child interaction and help a child learn to assume a more active and ultimately independent role in the learning process. Responsive support for the child to become actively engaged in solving problems is often referred to as parental scaffolding, and is also thought to be key for facilitating children's development of self-regulation and executive function skills, behaviours that allow the child to ultimately assume responsibility for their well-being.

Topic 216: Parent Teacher Meetings

Very often, we observe parent-teacher interactions in the form of report card meetings that occur once every two months. These are usually brief with the two discussing the child's academics and that's it; no more interaction until the next exam results. 

Even though this seems normal, it isn't good for the student. Parent-Teacher interactions should include a few personal talks/messages for times like when a student performs exceptionally well or unwell at something, or through weekly emails or newsletters that inform the parents of the ongoing at school and in their child's class.

Why is this important you ask? Well, here are 7 reasons why parents and teachers should keep frequent contact:

1. Parents gain a better understanding of their child

When parents enroll their children in a school, they enter into a different environment than what they were in until that time. They start to show different behavior to adapt to this environment. Parents often do not see a side of their children that is seen with the child's peers.

If the teachers are connected to the parents through interactions and keep them informed of their child's progress and behavior, the child's strengths, weaknesses, and interests can be understood by the parents and this helps the child develop a positive relationship with them where he/she has no secrets.

2. Teachers gain a better understanding of their student

Teachers see children from different backgrounds and understanding each of their pupils is crucial to tailor their teaching methods. Understanding the child's home environment and immediate family contributes to this by giving them information that cannot be gained directly from the child.

For example, a child who sings well but is shy would not develop their skill at school since the teacher doesn't know about their talent. If the parents can let the teacher know of the child's abilities, the teacher knows when to nudge the child into participation.

3. Parents don't develop over or under expectations

Teachers are trained and experienced in assessing their pupils using different methods and observations. These assessments are done with a holistic (all-around) view considering the whole class and are therefore different from how parental assessment is done where the child is observed singularly.

When teachers share their assessments and observations with parents, the parents gain valuable insights from a new perspective. This removes the chance of under or over expectations and takes the pressure off their child.

4. Parents play an active role in the child's school activities

Keeping parents in the loop in regards to their child's assignments, homework or even co-curricular activities boosts the child's morale and assures dedication towards the work given to them.

This also prompts greater involvement of parents into the child's life. It is a great way of letting the parents know what the children learn at school and how they can contribute towards their child's better understanding.

For example, if a child shows disinterest towards a certain topic or subject, parents at home can work on building interest by employing methods more personal than a teacher can.

5. Parents can collaborate with teachers to perform home learning

Scholastic activities do not have to be limited to the school premises. Parents can help their children with studies at home using methods of 'Home Learning'. These include leisure reading, family discussions, educational games, and enrichment activities (activities that blend scholarly subjects with singing, dancing, or other fun things).

When teachers communicate properly with parents about the teaching schedule, they can collaborate on making sure students grasp the concept and its practical applications at home if they cannot at school. This also inculcates a yearning for learning in students.

6. The child understands that he/she is being monitored and feels responsible

Most children who are 'naughty' or 'mischievous' are often misunderstood individuals who crave attention. The child feels that only by committing these mischiefs, the parents or teachers will look at them.

When the child realizes that there is an understanding and interaction between teachers and parents, the need for attention is removed and the child performs better both academically and non-academically. Children tend to be more responsible and frank about their feelings if they feel monitored.

7. The child feels supported at their school when their parents and teachers are well-connected

One of the bigger problems of children is that their problems go unexpressed. Sometimes it's a bully, sometimes it's that they cannot understand a subject, sometimes it's just that they feel a teacher is going too fast. If the child knows that they can talk to their parents about their problems and their teachers would get to know, or that if a teacher observes the wrongdoers then their parents will be informed, the child gains a sense of security and self-confidence.

These are our opinions on why it is important for teachers and parents to have two-way communication and how missing on it can adversely affect the student's performance.

We make sure the parents are deeply involved in their child's coding education by sending them weekly and biweekly reports of their child's progress and activities done by them. We keep the parents well informed about the concepts their kids are learning and even how they are learning by sharing the students' work with them. The kids also get a progress report and certification after completing a course.

ISSUES AND PRACTICES IN ASSESSING YOUNG CHILDREN**Topic 217: Professional standards and guidelines in assessing young children**

Assessment is a pivotal event for families and their children; assessment results are used to include children in specialized interventions that can change their developmental destinies. Beyond the eligibility determination or gatekeeping purpose, assessment also is critical for program planning, monitoring (formative) progress, and for program (summative) evaluation. Given the importance of assessment, it is understandable that the materials and procedures for early childhood assessment are contentious. Early childhood assessment is a flexible, collaborative decision-making process in which teams of parents and professionals repeatedly revise their judgments and reach consensus about the changing developmental, educational, medical, and mental health service needs of young children and their families. (Bagnato & Neisworth, 1991, p. xi). The professionals and parents who participated in this effort repeatedly expressed two concerns. First, as principal stakeholders, parents and family members must play a vital and indispensable role in assessment from beginning to end. Second, assessment methods and materials must accommodate children's developmental and disability-specific characteristics. Because of the importance of these concerns, they are presented separately.

Parents as Partners

As professionals, we are committed to working with parents and others who know and care about the child. It is true, of course, that there can be obstacles to effective family participation. Families may be overwhelmed by their child's possible diagnosis and may be intimidated by jargon and differences in educational levels. Cultural differences, language barriers, and work, health, schedule, and transportation difficulties also can make collaboration difficult. In addition to my legal and ethical responsibilities to partner with parents, there are sound professional and practical reasons for doing so. First, families provide valuable authentic and longitudinal information about their child that is not otherwise available (Diamond & Squires, 1993). Further, family members provide needed information about their circumstances and the possible impact on the child. More active involvement of parents in their child's program appears to be related to greater developmental progress (Ramey & Ramey, 1998). Not an isolated or perfunctory recommendation, parents as partners is a dominant theme that runs across all phases of the assessment and intervention sequence.

Developmental Appropriateness

Organizations representing young children (e.g., NAEYC, ACEI) have for some time advocated approaches and materials that match children's interests and developmental status. Early childhood professionals oppose the use of school-age demands and practices with children who are neither developmentally prepared for nor benefit from such imposition. Conventional standardized norm-referenced assessment materials and tasks are very often seen as entirely wrong even for use with

children of typical development (Perrone, 1991). The inappropriateness of such materials and demands becomes greatly exacerbated when considering young children with special needs (Bagnato, Neisworth, & Munson, 1997):

Assessment of infants and preschoolers remains dominated by restrictive methods and styles that place a premium on inauthentic, contrived developmental tasks; that are administered by various professionals in separate sessions using small, unmotivating toys from boxes or test kits; staged at a table or on the floor in an unnatural setting; observed passively by parents; interpreted by norms based solely on typical children; and used for narrow purposes of classification and eligibility determination. (p. 69)

The styles, methods, and content of assessment must become compatible with, rather than at odds with, the behavior and interests of young children. A fundamental precept of developmentally appropriate practice is that teaching and assessment must take place in the child's natural context rather than being decontextualized (Bagnato & Neisworth, 2000): A developmental approach presumes a more whole-child view. Many developmental areas are sampled and child differences, from time to time, are highlighted so that the child's previous performance serves as the baseline for monitoring progress. Professionals use a flexible approach in choosing toys that are motivating for the child and are often the child's own. They are responsive to the fact that young children rarely sit still at tables or respond on command to typical structured tasks. A developmental approach acknowledges that professionals must adjust their own language, behavior, and expectations to the young child's level of developmental maturity. A more familiar play-based approach is used that does not force conformance to standardized procedures that are at odds with the typical behavior of young children. (p. 1)

New directions and professional standards for early childhood assessment must reflect eight critical qualities: assessment must be useful, acceptable, authentic, collaborative, convergent, equitable, sensitive, and congruent (Bagnato & Neisworth, 1999).

Utility

Assessment must be useful to accomplish the multiple and interrelated purposes of early care and education and early intervention. Assessment is critical for detecting possible problems and, through intervention, averting later more intractable and complex difficulties. Children must be able to access programs through flexible eligibility determination processes; assessment is crucial for planning individualized interventions, for monitoring progress through regular repeated assessments, and for documenting the impact of quality programs. Above all, assessment must have treatment validity—there must be an essential similarity or linkage among program goals, individual child objectives, and the developmental competencies that are assessed. Materials and methods of assessment must help families and professionals to identify instructional objectives and methods for helping.

Acceptability

The methods, styles, and materials for assessment must be mutually agreed upon by families and professionals. The objectives and methods suggested by assessment must be considered worthwhile and acceptable. Further, assessment should detect changes in behavior that are noticeable to caregivers in the home and early childhood environments. This standard of acceptability is an aspect of the wider construct usually referred to as social validity.

Authenticity

Contrived tasks and materials as well as unfamiliar people and circumstances are not optimal for true appraisals of what children really know and do. Tabletop testing with tiny little toys is often a task dreaded by the child, parents, and, indeed, the professional. Psychometric items typically do not sample useful curricular content that could guide intervention. Observing children perform in their natural settings offers authentic information that is much more descriptive of the child. Rating scales, direct observation, curriculum-based checklists, and caregiver interview inventories are useful in helping professionals obtain a realistic appraisal of the child's strengths and intervention priorities.

Collaboration

Assessment methods and styles should promote teamwork among families and professionals. Parents and other family members are central partners in the assessment of their children; assessment materials should be chosen and used because they are written in understandable, family-friendly, jargon free language to which anyone can respond. Assessment must promote the concept of parent–professional decision making in which tests do not make decisions—people do. Curriculum-based assessment can be used as a unifying approach that invites input from multiple team members, including family members.

Convergence

Functional, reliable, valid information on the status and progress of children can be obtained when typical behavior in everyday routines is observed repeatedly by several individuals—teachers, other professionals, and parents. Differences in such data are important to highlight so that areas of needed change or special emphasis in programming can be underscored. The pooling (convergence) of several perspectives (family, professional) provides a better information base.

Equity

Assessment must accommodate individual differences. The principle of equity is recognized (and mandated) as essential for instructional materials. For example, one would not use standard print  material with children of low vision. Materials can be chosen that allow the child to demonstrate capabilities through several different response modes by using materials that can be changed in a flexible manner. When materials and procedures accommodate a child's sensory, response, affective, and cultural characteristics they are equitable. Conventional materials have been standardized with

children of typical development; to force fit these materials to atypical children violates not only the standards of equity and developmental appropriateness, but common sense.

Sensitivity

Professionals and families must be given the opportunity to use assessment materials that sample evidence of progressively more complex skill development so that even the smallest increment of change can be detected and celebrated. Children with more severe delays and impairments especially need assessment that is sensitive to small increments of progress. Many conventional instruments do not include a sufficient number of items to make possible sensitive measurement of progress.

Congruence

Materials must be designed for, and field validated with, the very children who will be assessed, including those with typical development and those with varying degrees of mild to severe disabilities. Early intervention, specifically, and early childhood education, generally, require specialized materials that address the emerging talents of young children at play in various home- and center-based educational settings. Early childhood assessment materials and methods must be developed specifically for infants, toddlers, and preschool children and match the style and interests typical of young children.

Topic 218: Organization Of The Practices

The Recommended Practices in assessment are organized around five statements. They reflect the issues just discussed and include the following: (1) professionals and families collaborate in planning and implementing assessment; (2) assessment is individualized and appropriate for the child and family; (3) assessment provides useful information for intervention; (4) professionals share information in respectful and useful ways; and (5) professionals meet legal and procedural requirements and Recommended Practices guidelines. Two central themes or dimensions inform all of the practices: (1) family members are partners in assessment; and (2) materials and practices must be developmentally appropriate.

Guidelines for Assessing Young Children

In 1998, the Goal 1 Early Childhood Assessments Resource Group recommended to the National Education Goals Panel the following guidelines for the assessment of young children:

1. Before age 8, standardized achievement measures are not sufficiently accurate to be used for highstakes decision-making about individual children and schools. Therefore, high-stakes assessments intended for accountability purposes should be delayed until the end of third grade (or preferably fourth grade).
2. [prior to the third grade] policymakers at the state and district level could reasonably require that teachers and the schools have procedures in place to monitor student progress using instructionally

relevant assessments, and that schools have a plan for providing intensified special help if children are having difficulty, especially learning to read.

The National Association for the Education of Young Children (NAEYC) offers a general rule for testing young children: “The purpose of testing must be to improve services for children and ensure that children benefit from their educational experiences.” Specific NAEYC guidelines support the use of more than just test scores for assessing young children. They emphasize that decisions that have a major impact on children, such as enrollment, retention, or assignment to remedial or special classes, should be based on multiple sources of information and should never be based on a single test score.

Topic 219: Problems in testing young children

Testing young children became a frequent practice when educational testing first became popular in the early 1900s. By the late 1980s, 19 states required mandatory kindergarten screening tests.

However, while noting the usefulness of some types of early childhood testing, researchers have also pointed out that tests tend to be less reliable at very early ages. This and other concerns have led to some changes in thinking and practice over the years. In 1998, a group of experts reviewed existing research and practice on the assessment of young children and recommended that: “...screening tests should not be used as readiness tests to exclude children from school; they should not be used to track children by ability in kindergarten and first grade; and they should not be used to plan instruction unless a valid relationship with local curricula has been established.”

The cautions of testing researchers, combined with their own experiences, have resulted in most states delaying the testing of children in public schools until the 3rd grade. The 2001 No Child Left Behind Act requires state testing in mathematics, reading/language arts, and science, starting in third grade. Nonetheless, a number of private schools, including Catholic schools, do require entering kindergartners to pass a test as part of their admission requirements. Some public elementary schools also continue to test very young children and use the results for key decisions, such as entry into a gifted public school. Early childhood researcher Sam Meisels points to an unintended consequence of the increased societal emphasis on accountability, which has led to increased testing of young children. In a 1998 report entitled *Assessing Readiness*, he noted: “Recognizing the escalation of academic and accountability demands in the kindergarten...parents in increasing numbers seek to protect their children from these demands by holding their children out from school until they are a year older than the standard entry age.”

There are differing opinions about the value of using standardized tests to assess the abilities and knowledge of young children. Research with young children (under 8 years old) indicates that using standardized tests for student grade placement or school retention can prove to be harmful to children's ultimate achievements.

Using standardized tests to assess the abilities and knowledge of young children is viewed differently among educators, parents, politicians, and members of the community. Tests that are

valid and reliable are extremely important tools when they are used to determine or to assure proper treatment for a child's special learning needs. However, research with young children (under 8 years old) indicates that using standardized tests for student grade placement or school retention can prove to be harmful to children's ultimate achievements.

The very skills best learned and assessed in context -- reading, math, and language -- are the skills assessed generally by school districts with standardized, group-administered, paper-pencil tests which are inappropriate for young children. Young children do not understand the purpose of formal testing. Moreover, tests that are given at one point in time may not give a total picture of a child's abilities. On a given test day, children may experience externally imposed anxiety or apathy contributing to the questioned reliability of such measures. There are several studies that have documented the associated stress young children experience during testing (Wodtke et al. 1989; Fleege et al.1992). Still, test designers profess that group-administered tests are more objective than the documented work of children with supportive intentional observations in the context of daily activities (Meisels 1993).

Topic 220: Preschool testing program for kindergarten , Grade 1, 2 and 3

The instruments that are frequently used are listed below for preschool and elementary school classrooms.

Instrument	Classroom	
	Pre-K	K to 3 rd grade
Classroom Assessment Scoring System (CLASS) (Pianta & La Paro, 2003)	X	X
Early Childhood Environmental Rating Scale (ECERS-R) (Harms, Clifford & Cryer, 1998)	X	
Early Childhood Classroom Observation Measure (ECCOM) (Stipek, 1996)	X	
The Early Language and Literacy Classroom Observation Tool (ELLCO) (Smith, Dickinson, Sangeorge & Anastasopoulos, 2002)	X	X
Supports for Early Literacy Assessment (SELA) (Smith, Davidson, Weisenfeld, & Katsaros, 2001)	X	

TECHNOLOGY AND TESTING YOUNG CHILDREN**Topic 221: When to Introduce Children to Computers**

Many researchers do not recommend that children under 3 years old use computers (e.g., Hohmann, 1998). Computers simply do not match their learning style. Children younger than 3 learn through their bodies: their eyes, ears, mouths, hands, and legs. Although they may return over and over again to an activity, they are full of movement, changing focus frequently. Computers are not a good choice for the developmental skills these children are learning to master: crawling, walking, talking, and making friends.

Topic 222: Developmentally Appropriate Computer Activities

Unfortunately, computers are used all too often in ways that are developmentally inappropriate. One study (U.S. Congress, 1995) found that while "schools are steadily increasing their access to new technologies . . . most teachers use these technologies in traditional ways, including drills in basic skills and instructional games" (p. 103). Clements (1994) makes a similar point, noting, "What we as early childhood educators are presently doing most often with computers is what research and NAEYC guidelines say we should be doing least often" (p. 33).

Papert (1998) stresses that computers have an impact on children when the computer provides concrete experiences, children have free access and control the learning experience, children and teachers learn together, teachers encourage peer tutoring, and teachers use computers to teach powerful ideas.

Developmentally appropriate ways to use computers with 3- and 4-year-olds are different from the ways we use computers in kindergarten and the primary grades.

Topic 223: Computers and Preschoolers

Children 3 and 4 years of age are developmentally ready to explore computers, and most early childhood educators see the computer center as a valuable activity center for learning. Timing is crucial. Children need plenty of time to experiment and explore. Young children are comfortable clicking various options to see what is going to happen next. Teachers may want to intervene when children appear frustrated or when nothing seems to be happening. Frequently, just a quick word or two, even from across the room, reminds children what they need to do next to reach their desired goal. Providing children with minimal help teaches them they can operate the computer successfully. In addition, by observing what children are doing, the teacher can ask probing questions or propose problems to enhance and expand children's computer experiences.

Topic 224: Computers for Kindergartners and Early Primary Children

As children enter kindergarten and the primary grades, it is important that they continue to have access to a computer center with a library of developmentally appropriate software. Children need opportunities to make choices about some of their computer experiences. In addition, kindergarten or primary-grade teachers will want to use the computer for more directed activities that match their learning objectives. For example, to enhance language skills, children can compose a letter to a friend or relative using the template provided in ClarisWorks for Kids or similar software.

Children could also work in small groups. For example, one group might use software such as Scholastic's Magic School Bus Explores the Rainforest to compare two of the seven ecozones in the program. Using software such as Edmark's Kids' Desk: Internet Safe, other small groups can investigate these two ecozones on Internet Web sites selected by the teacher. The groups might then merge to share their discoveries and write a report on the ecozones, illustrating each with pictures drawn by members of the group or downloaded from the Internet sites. Through exploring computer experiences, these children build memory skills, learn how to seek out information from multiple sources until they have a clear understanding of ecosystems, and integrate their knowledge of how each ecosystem functions. In the process, they learn to delegate responsibility, interact with others, solve problems, and cooperate to reach a goal.

Topic 225: Benefits of Computer Use

Research has shown that 3- and 4-year-old children who use computers with supporting activities that reinforce the major objectives of the programs have significantly greater developmental gains when compared to children without computer experiences in similar classrooms ? gains in intelligence, nonverbal skills, structural knowledge, long-term memory, manual dexterity, verbal skills, problem solving, abstraction, and conceptual skills (Haugland, 1992).

The benefits of providing computers to kindergarten and primary-grade children vary depending upon the kind of computer experiences offered and how frequently children have access to computers. The potential gains for kindergarten and primary children are tremendous, including improved motor skills, enhanced mathematical thinking, increased creativity, higher scores on tests of critical thinking and problem solving, higher levels of what Nastasi and Clements (1994) term effectance motivation (the belief that they can change or affect their environment), and increased scores on standardized language assessments.

In addition, computer use enhances children's self-concept, and children demonstrate increasing levels of spoken communication and cooperation. Children share leadership roles more frequently and develop positive attitudes toward learning (Clements, 1994; Cardelle-Elawar & Wetzel, 1995; Adams, 1996; Denning & Smith, 1997; Haugland & Wright, 1997; Matthew, 1997).

Topic 226: Integration of Computers into the Classroom

Early childhood programs serve diverse populations and have different schedules, curriculums, staffing patterns, resources, and so on. Goals for computer use and the steps that schools take to integrate computers into their classrooms may be completely different but equally successful.

A viable beginning is for teachers, administrators, and parents to share magazine, journal, and newspaper articles they have seen regarding children using computers. A study group of all the individuals who have expressed interest in children using computers can then be organized. The next step is to summarize the benefits of using computers with young children and to discuss goals for the year, including the cost of computers and teacher training.

A first goal may be obtaining computers. The ratio of computers to young children is important ? at most 1 to 7, preferably 1 to 5. If this ratio cannot be met with the resources available, it is far better to use a set of computers in a classroom for a month, quarter, or semester and then rotate them to another classroom. Equal access for children is essential; even the most talented teacher will have difficulty integrating computers into his or her classroom with only one computer.

To help in computer selection, the study group can seek out mentors who have expertise using computers. These mentors might be teachers currently using computers, a professor at a college, or leaders in business. The study group may also want to brainstorm possible fund-raising activities and explore the possibility of obtaining used computers from businesses ? making sure the computers have the capacity to run software that is currently being marketed for young children.

Topic 227: Teacher Training

Teacher training is essential for computers to be an effective teaching tool. A recent report reveals that only a few teachers in a relatively small number of schools have been trained to maximize technology use in classrooms (Gatewood & Conrad, 1997). Training opportunities enable teachers to build skills and confidence and learn strategies to integrate computers into their curriculum. Epstein (1993) identified four critical components of training: practical experience, workshops, models and mentors, and supervisory follow-up.

As a first step, teachers can explore software that is developmentally appropriate for their classrooms. Teachers can then discuss the potential learning objectives of the programs and activities they could use to integrate particular software into their classrooms. Teachers can also participate in workshops that integrate the developmental theory and research regarding computer use with hands-on experiences. Mentors can also provide teachers with affirmation, support, and suggestions for classroom use.

As teachers implement technology in the classroom, their vision of the role of technology in teaching and learning will undoubtedly change. Administrators need to continually support teachers in their quest to discover how technology can best enhance children's learning.