Teaching Material of M. Ed. in Special Needs Education

Assessment of Student with Special Needs

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Assessment of Students with Special Needs

(SN Ed...)

For M. Ed Second Semester

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Contents

Specific Objectives of the Course

After the completion of the course, the students will be able to:

- Explain the concept, purpose and types of assessments.
- Mention key principles and practices of assessments in relation to children with special needs.
- Describe models of assessments.
- Identify major issues and concerns regarding identification and assessments system of PWDs in Nepal.
- Develop measures of assess students' academic achievement.
- Demonstrate Wechsler individual achievement Test-3rd Edi. (WIAT-III); to measure academic performance of children with special needs.
- Illustrate key elements in measuring intelligence.
- Outline the features of IQ tests.
- Explain nonverbal tests of intelligence.
- Explore key ideas in interpreting intelligence test results.
- Assess speech and language skills of children with special needs.
- Explain receptive and expressive language skills.
- Explain speech and articulation test designed for children with speech and language impairments.
- Identify pragmatic and social language evaluation techniques.
- Explain procedures for assessing different disorders.
- Describe procedures of Assistive Technology (AT) for assessing quality of life of children with special needs.
- Use Test of Visual Perceptual Skills (TVPS) for children with special needs.
- Identify major characteristics of LD, EBD and ADHD
- Differentiate adaptive and functional assessments
- Use Kaufman Assessment Battery to measure cognitive performance of children with LD, EBD and ADHD

Unit I: Assessment of Students with Special Needs

1.1 Assessment: Concepts, Purpose and Types

Special education instruction is specially designed to meet the unique needs of students who have different kinds of disabilities. This type of education is offered at no cost of parents. Special education can include special instruction in the classroom, at home, in hospitals of institutions, or in other settings.

More than 5 million students' ages 6 through 21 receive special education and related services each year in the USA. Individuals with Disabilities Education Act (IDEA, 2004): defines special education as, each student receives instruction that is specially designed:

- To meet the student's unique needs (which result from having a disability); and
- To help the student learn the information and skills that other students are learning.

Certain students with disabilities are eligible for special education and related services. IDEA provides a definition of a child with a disability and mentioned 13 separate categories of disabilities under which children may be eligible for special education and related services.

- Autism
- Deafness
- Deaf-blindness
- Emotional disturbance
- Hearing impairment
- Mental retardation
- Multiple disabilities
- Orthopedic impairment
- Other health impairment
- Specific learning disability
- Speech or language impairment
- Traumatic brain injury

- Visual impairment, including blindness

According to IDEA, the disability must affect the student's educational performance. The question of eligibility, then , comes down to a question of whether the child has a disability that fits in one of the IDEA's 13 categories and whether that disability affects how the child does in school. that is to be eligible, the disability must cause the child to need special education and related services.

To determine if a student is eligible for classification under one of these areas of exceptionalities, an evaluation, or assessment, of the students must be conducted. Every year, millions of students ages three and up are assessed for the presence of a disability and they are found eligible for special education and related services because they are in need of support in order to successes in school.

Concept of Assessment

Assessment in special education is the process used to determine a student's specific learning strength and needs to determine whether that student is eligible for special education services. It is a process involves collecting information about the student for the purpose of making decisions. Assessment can be seen as a problem-solving process (Swanson & Watson, 1989) that involves many ways of collecting information about the students. According to Gearheart and Gearheart (1990), assessment is a process that involves the systematic collection and interpretation of a wide variety of information on which to base instructional/ intervention decisions and, when appropriate, classification and placement decisions.

Assessment is the process of gathering information to monitor progress and make educational decisions if necessary. Assessment happens every day in every classroom. The process of assessment plays an important role in the determination of student outcome. The IDEA 1997 Amendments and current educational reform place more emphasis on the assessment of all students for the measurement of attainment of educational standards within the general curriculum (Federal Register, 1999; Ysseldyke, Nelson, House 2000).

The effectiveness of earlier special education programs has also been debated in the literature, and such discussions have contributed to the current inclusion movement of students with disabilities in the general education curriculum and setting. Although the percentage of students receiving special education support continues to increase, so has the percentage of students in those programs graduating with regular high school diplomas (U.S. Department of education, 2000).

According to Linn and Miller (2005), Assessment as any of a variety of procedures used to obtain information about student performance. Assessment refers to the full range of information gathered and synthesized by teachers about their students and their classrooms. Furthermore, Arends (1994), defines, Assessment is a method for analyzing and evaluating student achievement or program success.

Assessment of students with disabilities is based on the same principles as assessment of students in general education. Inclusion of students with disabilities within the context of general education classroom setting, as a mode of service delivery, has increased to more than 46% and will continue to increase due to the IDEA 1997 emphasis on general curriculum (U. S. Department of Education, 1999; Federal Register, 1999). This increase of students with disabilities in the general education environment result in common expectations for educational standards and common assessment (U. S. Department of Education, 1999).

In the assessment of students, behavior is observed, progress is evaluated, and a program is planned. The very best assessment practice, however, must adhere to legal mandates, ethical standard and basic principles of measurement. Teachers and other educational personnel have a professional responsibility to be accountable for each decision about assessment decision. Therefore, knowledge of the fundamentals of assessments and the various types of assessment is necessary.

Assessment and Federal Law

The Individuals with Disabilities Education Act (IDEA, 2004), Public Law 105-476, lists 13 separate categories of disabilities under which children may be eligible for special education and related services. These are:

Autism

Autism means a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three that adversely affects a student's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences. The term autism does not apply to a student whose educational performance is adversely affected primarily because the student has an emotional disturbance.

Deaf-Blindness

Deaf-blindness means concomitant hearing and visual impairments, the combination of which causes such severe communication and other developmental and educational needs that the affected person cannot be accommodated in special education programs for students solely with deafness or solely with blindness.

Developmental Delay

A student with a developmental delay is one who, in physical development, cognitive development, communication development, social or emotional development, adaptive development, or any combination thereof

- Is so defined by the state and as measured by appropriate diagnostic instruments and procedures, and
- By reason thereof, needs special education and related services.

Emotional Disturbance

Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a student's educational performance.

- An inability to learn that cannot be explained by intellectual, sensory, or health factors
- An inability to build or maintain satisfactory interpersonal relationship with peers and teachers
- Inappropriate behavior of feelings under normal circumstances
- A general pervasive mood of unhappiness or depression
- A tendency to develop physical symptoms or fears associated with personal or school problems

Emotional disturbance includes schizophrenia. The term does not apply to students who are socially maladjusted.

Hearing Impairment

Hearing impairment means a level of sensitivity in hearing, whether permanent of fluctuating, that adversely affects a student's educational performance but that does not meet the definition of deafness.

Mental Retardation

Mental retardation means significantly sub-average general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affected a student's educational performance.

Multiple Disabilities

Multiple disabilities means concomitant impairments (such as mental retardation and blindness, or mental retardation and orthopedic impairment), the combination of which causes such severe educational needs that they cannot be accommodated in special education programs solely for one of the impairments. Multiple disabilities do not include deaf-blindness.

Orthopedic Impairment

Orthopedic impairment means a severe physical condition that adversely affects a student's educational performance. The term includes impairments caused by a congenital anomaly, impairments caused by disease (e.g., poliomyelitis or bone tuberculosis), and impairments for other causes (e.g., cerebral palsy, amputations, or fractures or burns that causes contractures).

Other health Impairment

Other health impairment means having limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that result in limited alertness with respect to the educational environment, and that is due to

- Chronic or acute health problems such as asthma, attention deficit disorder, attention deficit/hyperactivity disorders, diabetes, epilepsy, heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, and sickle cell anemia; and
- Adversely affects a student's educational performance.

Specific Learning Disability

Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may

manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.

Specific learning disability does not include learning problem that are primarily the result of visual, hearing, or motor disabilities; of mental retardation; of emotional disturbance; or environmental, cultural, or economic disadvantage.

Speech or Language Impairment

Speech or language impairment means a communication disorder such as stuttering, impaired articulation, language impairment, or a voice impairment that adversely affects a student's educational performance.

Traumatic Brain Injury

Traumatic brain injury means an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects student's educational performance. Traumatic brain injury applies to open or closed head injuries resulting in impairments in one or more areas such as cognition, language, memory, problem solving, attention, reasoning, abstract thinking, judgment, psychological behavior, physical function, information processing, speech, and sensory, perceptual and motor abilities. It does not apply brain injuries that are congenital of degenerative or to brain injuries induced by birth trauma.

Visual Impairment

Visual impairment means a level of acuity in vision that, even with correction, adversely affects a child educational performance. The term include both partial sight and blindness.

Assessment in special education is a detailed and complex process that must be conducted in the appropriate manner. Assessment in special education follows the guidelines set forth by IDEA. Under IDEA, it is critical to remember that assessment needs to be conducted by a multidisciplinary team of trained professionals. Comprehensive assessment of a child can greatly enhance his educational experiences.

Purpose of Assessment

Assessment in educational settings serves five primary purposes (Pierangelo & Giuliani, 2006):

1. *Screening and Identification*

   To screen children and identify those who may be experiencing delays or learning problems.

2. *Eligibility and Diagnosis*

   To determine whether a student has a disability and is eligible for special education services, and if so to diagnose the specific nature of the student's problems or disability.

3. *IEP Development and Placement*

   To provide detailed information so that an Individualized Education Program (IEP) may be developed and appropriate decisions made about the child's educational placement.

4. *Instructional Planning*

   To develop and plan instruction appropriate to the child's special needs.

5. *Evaluation*

   To, evaluate student progress.

Types of Assessment

Assessment is the process of using measures of student performance and behavior, including tests, to make educational decisions. Assessment consists of an assortment of techniques and procedure for evaluating, estimating, appraising, testing, and drawing conclusions about the students. Unlike typical assessment, assessing students with special needs takes into account

unique needs; therefore, it becomes different for each student. The goal is to adapt the process to fit individual needs rather than fitting students into particular assessment procedure.

Norm-Referenced and Criterion-Referenced Assessment

Norm-referenced and criterion-referenced assessment represents two fundamentally different ways on interpreting performance. Norm-referenced assessment involves interpreting the performance of individuals and groups in relation to the performance of others. Criterion-referenced assessment, on other hand, refers to interpreting performance in relation to some functional level or criterion.

Norm-Referenced Assessment

Norm-referenced assessment related scores or groups of scores to the scores of those in comparison groups, called norm groups or norm sample groups. Norm groups consist of carefully selected groups of students who take the test in precise manner. The norms constitute sets of scores for each age or grade level based on the average scores of the students in the norm group. With norm referenced testing, the criterion of reference is the “place” or “rank” of a student compared with other students. A student with a percentile rank of 25 on a norm-referenced test, for example, ranks is the lowest 25% compared with the norm group. This ranking procedure illustrate how norm-referenced scores show relative standing. Although many uses exist for norm-referenced testing, it is most useful for making classification and placement decisions about the students with special needs.

Criterion-Referenced Assessment

Criterion-referenced assessment involves interpreting performance in relation to a specific functional level or criterion. Criterion-referenced assessment is closely related to instruction and it is ideal measuring student knowledge on relatively small and discrete units. When the criterion of reference related to content, performance is compared to a standard of mastery or proficiency for a skills, or set of skills. For example, the

Comprehensive Inventory of Basic skills, Revised (CIBS-R, Brigance, 1999), a criterion-referenced test of academic skills, measures competencies such as word-attack skills, phonetic skills, subtracting two-digit numbers, and solving mathematical word problem. Giving the CIBS-R entails evaluating performance in term of student mastery of specific skills. The criterion-referenced assessment information produced by the CIBS-R is most helpful for making instructional decisions, such as determining what skills a student has mastered and which skills a student needs to learn next.

Curriculum-Based Assessment

Curriculum based assessment in an evaluation approach that measures performance based on progress in the curriculum rather than in relation to scores on tests. Also referred to as authentic assessment or performance assessment, curriculum-based assessment relies on teacher-made tests, class-work, homework assignments, and teacher impressions to formulate assessment decisions. In 1982, Gronlund, wrote about developing curriculum-based assessment procedures using teacher-made tests that offer high accuracy and validity. In 1985, Blankenship described the use of curriculum-based assessment data to make instructional decisions. The primary advantage of curriculum-based assessment is its ability to evaluate student performance in direct relation to what has been taught in the classroom. Teachers of student with disabilities are especially interested in this type of assessment because it provides a direct link between evaluation and instruction.

Formative vs. Summative 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. Formative assessment is designed to assist the learning process by providing feedback to the learner, which can be used to identify strengths and weakness and hence improve future performance.

Formative assessment is most appropriate where the results are to be used internally by those involved in the learning process (students, teachers, curriculum developers).

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 used primarily to make decisions for grading or determine readiness for progression. Typically summative assessment occurs at the end of an educational activity and is designed to judge the learner's overall performance. In addition to providing the basis for grade assignment, summative assessment is used to communicate students' abilities to external stakeholders, e.g., administrators and employers.

Informal vs. Formal Assessment

With informal assessment, the judgments are integrated with other tasks, e.g., lecturer feedback on the answer to a question or preceptor feedback provided while performing a bedside procedure. Informal assessment is most often used to provide formative feedback. As such, it tends to be less threatening and thus less stressful to the student. However, informal feedback is prone to high subjectivity or bias.

Formal assessment occurs when students are aware that the task that they are doing is for assessment purposes, e.g., a written examination or OSCE. Most formal assessments also are summative in nature and thus tend to have greater motivation impact and are associated with increased stress. Given their role in decision-making, formal assessments should be held to higher standards of reliability and validity than informal assessments.

Process vs. Product Assessment

Process assessment focuses on the steps or procedures underlying a particular ability or task, i.e., the cognitive steps in performing a mathematical operation or the procedure involved in analyzing a blood sample. Because it provides more detailed information, process assessment is most useful when a student is learning a new skill and for providing formative feedback to assist in improving performance.

Product assessment focuses on evaluating the result or outcome of a process. Using the above examples, we would focus on the answer to the math computation or the accuracy of the blood test results. Product assessment is most appropriate for documenting proficiency or competency in a given skill, i.e., for summative purposes. In general, product assessments are easier to create than process assessments, requiring only a specification of the attributes of the final product.

1.2 Principles and Practices of Assessment

In recent years, assessment of student achievement has been receiving the attention of teachers, parents, researchers and education systems. This attention has highlighted assessment as integral to the teaching and learning process. Current assessment practices need to reflect changes based on new understandings of learning theories, new curricula that are being developed, new knowledge and skills that are necessary for the 21st Century and the accountability requirements of systems and governments. In this respect assessment of student achievement is changing as today's students face a world that demands new knowledge, skills and behaviors that have not yet been defined (Segers et al 2003). Students, in this fast and ever changing context, need not only develop deep understandings of disciplines but also develop the ability to analyze, synthesize and make inferences as well as think critically and problem solve. Assisting students to develop these knowledge, skills and behaviors and become life-long learners requires changes in the assessment processes at the school and classroom level.

Current learning theories attempt to capture all the parameters of human learning and provide information on how people learn. Common threads through learning theories indicate directions that have important implications for the educative process. Whether learning can be called the process of human change and transformation or the acquisition of knowledge and expertise, it "always entails participation in relationship and community transformation both of the person and of the social world" (Packer & Goicoechea, 2000, p227).

Current learning theory emphasizes the importance of learning with understanding (Bransford et al, 2000). This means that curriculum and teaching approaches should emphasize understanding rather than memorization, should provide opportunities for in-depth study to allow for firm foundation of knowledge and conceptual development and should enhance student abilities to recognize and use meaningful patterns of information. Assessment processes, then, should enable students to demonstrate deep understanding of concepts rather than surface knowledge and recall of facts. Assessment should be able to reveal the quality of students' understanding and thinking as well as specific content or processes.

Learners construct knowledge and understandings based on what they already know and believe. This means that teaching should utilize students' prior knowledge as the basis for further learning (Bransford et al, 2000). Learners' incomplete understandings and preconceptions need to be considered in planning for teaching and be challenged in various ways including through dialogue and the use of open-ended questions. Assessment processes should establish students' prior learning and monitor students' changing conceptions as teaching and learning proceeds. Assessment should help expose students' thinking processes to themselves and their teachers. Appropriate feedback throughout the learning/teaching process should lead students to modify and refine their thinking.

Meaningful learning occurs when learners are actively involved and have the opportunity to take control of their own learning. This means that education should emphasize the active engagement of students in the learning process and the use of teaching strategies congruent with a Metacognitive approach to learning, such as sense-making, self-assessment and

reflection on what worked and what needs improving. Teaching should also focus on developing learners' strategies to gain knowledge and understanding. It follows, then, that assessment tasks should be engaging and integral to the learning/teaching process. Assessment processes should provide feedback to students and should emphasize metacognition, self-assessment and peer-assessment and the degree to which students transfer their learning to new settings.

Principles for Assessment

Substantial research exists on the characteristics of good practice for assessing student learning. Assessment is summarized in the following set of principles:

- ***The primary purpose of assessment is to improve student performance***

Good assessment is based on a vision of the kinds of teach we most value for students and how they might best achieve these. It sets out to measure what matters most.

- ***Assessment should be based on an understanding of how students learn***

Assessment is most effective when it reflects the fact that learning is a complex process that is multi-dimensional, integrated and revealed in student performance over time.

- ***Assessment should be an integral component of course design and not something to add afterwards***

The teaching and learning elements of each program should be designed in full knowledge of the sorts of assessment students will undertake, and vice versa, so that students can demonstrate what they have learned and see the results of their efforts.

- ***Good assessment provides useful information to report credibly to parents on student achievement***

A variety of assessment methods, fit for purpose, provides teachers with evidence of what students know and what they can do, and their particular strengths and

weaknesses. Teachers then can report to parents on how far their child has progressed during the year, where they are compared to the relevant standards, and what the student, the parent and the teacher need do to improve the student's performance.

• *Good assessment requires clarity of purpose, goals, standards and criteria*

Assessment works best when it is based on clear statements of purpose and goals for the course, the standards which students are expected to achieve, and the criteria against which we measure success. Assessment criteria in particular need to be understandable and explicit so students know what is expected of them from each assessment they encounter. Staff, students, parents and the community should all be able to see why assessment is being used, and the reasons for choosing each individual form of assessment in its particular context.

- *Good assessment requires a variety of measures*

It is generally the case that a single assessment instrument will not tell all we need to know about student achievement and how it can be improved. We, therefore, need to be familiar with a variety of assessment tools so we can match them closely to the type of information we seek.

• *Assessment methods should be valid, reliable and consistent*

Assessment instruments and processes should be chosen which directly measure what they are intended to measure. They should include the possibility of moderation between teachers where practical and appropriate to enhance objectivity and contribute to shared understanding of the judgments that are made.

• Assessment works best when it is ongoing rather than episodic

Student learning is best fostered when assessment involves a linked series of activities undertaken over time, so that progress is monitored towards the intended course goals and the achievement of relevant standards.

• Assessment for improved performance involves feedback and reflection

All assessment methods should allow students to receive feedback on their learning and performance so assessment serves as a developmental activity aimed at improving student learning. Assessment should also provide students and staff with opportunities to reflect on both their practice and their learning overall.

1.3 Models of Assessment

1.3.1 Models of RTI

Two common models have been used to implement RTI in schools: the problem-solving model and the standard-protocol model (Fuchs et al., 2003). Most schools select just one of these approaches to implement RTI at a particular Tier, but it is possible to blend the two models, particularly by using a standard-protocol approach in Tier 2 and then a more individualized problem-solving approach in Tier 3.

The Problem-Solving Model

The problem-solving model of RTI is rooted in behavioral consultations. It follows a four-step process in dealing with students learning and behavior problems:

a. Problem identification
b. Problem analysis
c. Plan implementation, and
d. Problem evaluation (Fuchs et al., 2003).

In the first phase, the team attempts to understand what the problem looks like, how often it occurs, and how long it lasts. The teacher making the referral and/ or the parent may be primary information in this stage. It is helpful to determine the student's strength and talents at this stage and to assist in intervention planning.

Second, the team operationally defines the problem by reviewing the data on the student's present performance. During the third stage, intervention plans are tailored to the problem that has been evidenced. The team prioritizes concerns, establishes academic or behavioral goals, and develops a plan for monitoring progress. Feasible scientifically based interventions are identified to achieve the stated goals. Step four, consists of plan implementation and requires a systematic implementations of the plan with fidelity. Finally, the problem-evaluation step consists of evaluating the effectiveness of the interventions, monitoring the plan, and developing ideas to improve the intervention's effect on the targeted outcomes.

Steps of Problem-Solving Models

I. Problem Identification

(i) Understanding the problem

Using functional behavior assessment (FBA), a member of the support team observed the interact with peers in class and on the playground, and another team member interviewed of children's parents and teacher to learn more about the children's behavior and adjustment at home and school.

(ii) Identifying student strengths

II. Problem Analysis

i. Reviewing the data

ii. Defining the problem

iii. Prioritizing concerns

iv. Establishing goals

v. Planning the Intervention

vi. Establishing a plan for monitoring progress

III. Plan Implementation

I. Systematically thinking through the intervention steps

II. Ensuring fidelity in the intervention

IV. Problem Evaluation

I. Reviewing the data

II. Follow-up

The Standard-Protocol Model

In contrast with the individualized problem-solving approach, the standard-protocol approach to RTI adopts a series of prescriptive, evidence-based interventions to help a group of students meet target skills that have been identified as lacking. First, student skill deficits are identified. Than a packaged intervention that has been validated in previous research is implemented in a uniform manner with the group of struggling students (Fuchs et al., 2003). Figure 1.1 depicts a sample weekly lesson-planning template that is based on a scientifically validated intervention routine.

Weekly Lesson Planning Template

Objective 1:
Objective 2:

Day				Notes
Monday *Target skill:*				
Wednesday *Target skill:*				
Friday *Target skill:*				
Monday *Target skill:*				
Wednesday				

Target skill:				
Friday ASSESS!!!!	Notes for next session			

Figure 1.1 Weekly Lesson Planning Template Using Standard Protocol for RTI in Reading.

Researcher tend to prefer the standard-protocol approach to RTI for dealing with academic problems because there is a growing body of evidence suggesting that it is effective with increasing academic achievement. In addition, given that most students demonstrate early problems in the area of literacy, and given that systematic literacy interventions address most early literacy skills, it is possible to intervention more cost effectively by using standard treatment that have been proven effective in previous research, particularly at Tier 2.

1.3.2 The Decision Model

In decision model, there are three phases for test use and selection (Drummond & Jones, 2006) illustrates the process and procedure for locating, selecting, and evaluating assessment instruments. The phases in the model are preparation, data collection, and evaluation. The first phase in the there-phase model is preparation. The questions in the preparation phase are the following:

1. What specific assessment judgments and decisions have to be made?
2. What information is needed to make the best decisions?
3. What information is already available?
4. What assessment methods and instruments will provide the needed information?
5. How should appropriate instruments be located?
6. How criteria should be used in selecting and evaluating assessment instruments?

These questions show the sequential steps in the preparation phase of the model, beginning with the assessment decision.

Assessment Decisions

Special education teachers make a wide range and variety of assessment decisions regarding the education of students with special needs, ranging from initial referral decisions to daily instructional decisions. In contrast, when special educators assess the strengths and weaknesses of students with reading disabilities, they use the evaluation results to help design reading remediation programs. Likewise, when teachers use spelling and math quizzes to help them prepare the lesson for the next day, they are making instructional decisions. Teachers also make many educational progress decisions based on classroom assessment data.

Special education teachers also make important assessment decisions when they help develop Individual Education Plans (IEPs), Individual Transition Plans (ITPs), and Individual Family Service Plans (IFSPs). IEPs are planning documents that define the elements of an appropriate education for each individual student with a disability. ITPs are planning documents for students who will soon graduate from school and enter the world of work. IFSPs are for infants, toddlers, and their families. When teachers help develop IEPs, ITPs, and IFSPs, they make vital educational planning decisions that affect the quality of the lives of children and youth with special needs.

Required Assessment Information

The second preparation step involves specifying the required assessment information. This ensures that the assessment provides enough data to make the best possible decisions and to avoid unnecessary assessment. For example, most placement and staffing decisions require explicit assessment information. When testing a student for a learning disability, school district procedures define the tests that the evaluators must give and the use of the test results to make the eligibility decision. In other situations, the type of information needed is not mandated. For example, the assessment information needed to place a student in a work-study job in the community includes the student's work experience, job interests, and work aptitudes. Data and information about the student's educational achievement and interests, as well as job openings

and appropriate job placement sites, are other dimensions that might be relevant to the placement decision.

Available Assessment Information

The third step is to identify what needed information is already available. In initial referral situations, there are specific activities that must be completed and documented. These include observing the student, attempting educational interventions to help resolve the problem, and meeting with the parents. Some of these assessments may have already occurred prior to the referral. If so, this information should be used to avoid replicating assessments. In most school setting, each student has a cumulative folder that contains a social and an educational history, test results, attendance records, health information, and miscellaneous records, which can be very helpful in the decision making process. However, when placing students, certain evaluations must be conducted regardless of the amount of prior information. Unfortunately, this sometimes leads to over-testing, especially with students who have special needs. For example, some students have been tested so many times with individually administered, standardized achievement tests that by the time they rich high school they resist and even refuse further testing.

Needed Assessment Information

After identifying the type of information that is needed and the information that is already available, the next step is to determine the methods and instruments for obtaining additional data. For example, if additional information is needed to make curricular and instructional decisions for students in a new class, then testing all of the new students with classroom-based instruments might be appropriate. If the goal is to enroll a student into another program, then individual testing with formal standardized instruments may be necessary. If assessment information is needed to design a behavior-management program for a child with aggressive, acting-out behavior, then the teacher may need to obtain a baseline of the inappropriate

behavior. In other words, the particular assessment methods and instruments depend on the purpose for conducting the assessment and the needs of the child.

1.4 Issues and Concerns about Identification and Assessment System of Person with Disabilities (PWDs) in Nepal

In the Nepal, an educational facility available to the disabled children is not adequate as per necessity. However, number of disabled students receiving opportunity to education is being increased each year. In addition to this, place and area providing special education is gradually being extended. In order to make the laws more comprehensive and fully compatible with the rights-based approach, the GON has prepared a draft bill to substitute the DPW Act. The draft bill defines 'persons with disability' as "the persons who are prevented from full and effective participation on the grounds as of other persons due to long-term physical, mental, intellectual and/or sensory impairments in interaction with various barriers". (GoN, 2014) For the purposes of distributing disability identity cards, the GON has classified disability, on the basis of its level of severity, as follows:

a. ***Profound disability:*** Difficulty to perform daily activities even with the help of others
b. ***Severe disability:*** Inability to perform daily individual or social activities without the help of others
c. ***Moderate disability:*** Ability to perform daily activities and participate in social life if barrier free environment, appropriate training and education are provided
d. ***Mild disability:*** Ability to perform daily activities and participate in social life if barrier free environment is provided

Above provisions are considered as the basic elements for ensuring human rights of persons with disability, as well as for their social inclusion, respectable rehabilitation and expansion of services. Here, an argument can be made that the current situation of PWDs will significantly improve with the successful implementation of these proposed measures. Government of Nepal has been indentified Specific Plans and programs in the following areas:

Education:

- No fees shall be charged to disabled students.
- The 5% of all the quotas in Government organizations that provide vocational training should be reserved for disabled people.
- NGOs or private organizations that provide education and training for disabled people can ask for assistance from the Government.
- A Disabled Relief Fund can be allocating as scholarships to disabled students

Health:

- Disabled people are entitled to free medical examination
- All hospitals with more than 50 beds should allocate two beds for the use of disabled people
- There should be free treatment for disabled people over the age of 65

Employment:

- It is prohibited to discriminate against disabled people in relation to their employment
- Individual businesses employing more than 25 people should give 5% of their jobs to disabled people
- There should be income tax exemption for employers who employ disabled people
- There should be no duties on specialist equipment required by disabled employees
- The 5% of jobs in the Civil Service should be allocated to disabled people

1.5 Assessing Students' Academic Achievement

One of the most important parts of assessment in the special education process is to assess academic achievement. Achievement tests are designed to access the academic progress of a student. A student's academic achievement skills are reviewed to determine how well s/he is performing in core skill area such as reading, writing, mathematics, and spelling. It is important

to remember that individual achievement tests are preferred for assessment of school performance in special education.

1.5.1 Assessments of Reading

Reading provides a fundamental way for individuals to exchange information. It is also a means by which much of the information presented in school is learned. As a result, reading is the academic area most often associated with academic failure. Reading is a complex process that requires numerous skills for its mastery. Consequently, identifying the skills that lead to success is reading is extremely important (Pierangelo & Giuliani, 2009).

Numerous reading tests are available for assessing a student's ability to read. Choosing which test to use depends on what area needs to be assessed. Different reading tests measure different reading sub-skills: oral reading, reading comprehension, word attack skills, and word recognition. Although most reading tests do cover many of these areas of assessment, each has its own unique style, methods of scoring and interpretative value. However, when looking at a student's reading behavior, regardless of the tests administrated, must address certain questions:

- Does the student have excessively body movements while reading?
- Does the student prefer to read alone or in a group?
- How does the student react to being tested?
- Does the student avoid reading?
- Does the student read at home?
- When the student reads, what types of materials will he or she read?
- Does the student value reading?

Reading skills are required across must life domains. Everyday life tasks, such as reading labels on product that are used regularly, reading maps and signs, playing boards and video games, following recipes, and using the internet to look up information

or get the news call for a certain level of reading proficiency. Academic learning requires a student to read text and express their learning in writing. There is general consensus that effective reading skills are essential for school success. A majority of students who have difficulties at school have been found to exhibit difficulties in the area of reading. In reading assessments, there are five essential components, which are as follows:

- ***Phonemic awareness:*** identifying and correctly using phonemes, the smallest units of sounds that make up speech. This skill include correctly hearing sounds, segmenting, blending, and recognizing similarities and differences in word sounds.
- ***Phonics:*** Also called alphabetic principle or symbol-sound correspondence, this skill requires the reader to recognize and use a set of rules that clarify the relationship between word sounds and symbols.
- ***Reading fluency:*** this skill calls for accuracy and speed in reading text using appropriate expression to indicate meaning.
- ***Vocabulary development:*** this ability calls for understanding the meaning of words that are encountered orally and in written format. A child's vocabulary helps the child with word recognition and reading comprehension.
- ***Reading comprehension:*** comprehension calls for using various strategies to understand and make meaning of the text and communicate coherently about what was read. Effective comprehension strategies require the reader to make connections between new text and what the reader already knows.

1.5.2 Assessments of Written Language

Written language is the expression of ideas and feeling in written form. Written language skills in the school curriculum include written expression, spelling punctuation, correct grammar and uses, vocabulary, creative ability, story theme, actual selling, and plot. Of these, written expression is the most difficult to assess because of the subjectivity involved in measuring the intricacies of writing.

Written comprehension is a complex form of communication, many students with disabilities have difficulty with it. Students without proficiency in written language lack of critical skill for academic success in school and for vocational success in the community. Teachers usually rely on curriculum-based assessment to evaluate written language. For this reason, assessing written expression is to indentify present level of writing and spelling performance as the basis for designing interventions programs. Assessment provides the teacher with information about specific strength and weaknesses as well as what each student knows and does not know about writing and spelling.

Assessments also helps teachers understand the writing strategies that student knows and use. This knowledge leads directly to the establishment of priorities for intervention in writing and spelling. Planning an instructional program in written expression also include deciding which particular instructional methods will be the most responsive to the often unique needs of individual students and groups of students. Finally, assessment of written expression helps teacher monitor the instructional program and determine student progress in meeting IEP goals.

1.5.3 Assessments of Mathematics

Mathematics, the ability to understand numerical patterns, groupings, and correlations is a basic subject in the academic curriculum. Although it does not permeate the school curriculum like reading, many students with disabilities encounter difficulty in mathematics. Developing math skills is a cumulative process in that students must master lower skills before learning higher-level skills. For this reason students in the early grades who fail to learn basic math skills also experience problems in later grades with higher-level math and applied math. In addition to becoming increasingly difficult, mathematics includes numerous concepts and skills. As a result, many students with special needs require diagnostic assessment and intensive remedial instruction in mathematics.

We assess mathematics achievement to screen, identify and place students, to plan instruction and intervention, to develop IEPs, to evaluate progress, and monitor program effectiveness.

Although some overlap occurs among these purposes, specialized math tests and assessment techniques are available for each function. For example, screening tests identify students who may have such severe problems in mathematics that further assessment is needed to determine whether a disability exists. Likewise, comprehensive, norm-referenced diagnostic tests identify students with math disabilities and help place them in appropriate programs. Although, teachers use norm-referenced tests for instructional planning purposes, they rely more often on less formal, curriculum-based assessment techniques. These include a variety of appraisal strategies, all of which link assessment with classroom instruction.

Mathematics can be assessed at the individual or group level. Consequently, it is a skill that is stressed and measure by various tests in schools. Mathematics tests often cover a great many areas. According to Salvia & Ysseldyke (2007), three types of classifications are involved in diagnostic math tests. Each classification measures certain mathematical abilities:

- ***Content:*** it consists of numeration, fraction, geometry, and algebra.
- ***Operations:*** it consists of counting, computation, and reasoning.
- ***Applications:*** it consists of measurement, reading graphs and tables, money and budgeting time, and problem solving.

1.6 Wechsler Individual Achievements Test-3rd Ed. (WIAT-III)

The WIAT-III (Psychological Cooperation, 2009) is an individually administered achievement test made up of 16 subtests. Students ages 4-0 to 19-11 or in grades pre-K (age 5) through high school may be administrated this instrument. Not all subtests are administered to all age groups. For example, pre-K students are administered the following subtests: Listening Comprehension, Early Reading Skills, Math problem Solving, Alphabet Writing Fluency, and Oral Expression.

This third edition of the WIAT contains changes in individual items, subtests, and scoring. Moreover, the third edition has the following new subtests: Early Reading Skills, Oral Reading Fluency, Math Fluency for addition, Math Fluency for Subtraction, and Math Fluency for

Multiplication. The WIAT-III includes two methods of determining learning disabilities. The first method is the traditional ability-achievement discrepancy method. The second method is the determination of a pattern of strengths and weaknesses with the determination of processing strengths and processing weaknesses and how these relate to achievement. The WIAT-III test format includes easels, paper and pencil tasks, separate reading cards, and an oral reading fluency booklet. Starting points and ceiling rules, which vary by subtests, are presented in the manual and on the protocol form. Some items are timed and cues are provided to the examiner in the protocol. Examiners are also provided rules for reverse administration in the examiner's manual and on the protocol of the student do not establish a basal.

The WIAT-III includes subtests in the areas of oral expression and listening comprehension. These areas may not be included in other academic achievement tests and may offer the educator useful information for determining a possible disability and for intervention. This test provides skill information on the protocol of the math subtests than can easily be adapted to write educational objectives. The protocol includes a qualitative observation section at the end of the protocol. Additional information regarding each subtests are as follows:

Listening Comprehension

This subtest presents two tasks. The first task asks the student to point to a picture that represents a word read to the student. The second task asks the students to remember sentences read to her or him and to respond to questions about the specific sentence or passage heard.

Early Reading Skills

This subtest presents a variety of reading skills, including alphabetic awareness, identification of words with the same beginning sounds and ending sounds, and matching letters and sounds.

Reading Comprehension

This test presents a variety of passage and text in different formats. The student reads the passage and responds to questions about them. The questions measure literal and inferential comprehension.

Math Problem Solving

These applied math items assess basic skills in concepts, geometry, everyday math problems, and algebra.

Alphabetic Writing Fluency

On these subtests, children in pre-K through grade 3 are asked to write the letters of the alphabet within a 30-second time limit. Student may write in print or cursive, and any order of the letters is acceptable.

Sentence Composition

This two-part subtest asks that the student first combine two sentences into one sentence that conveys the meaning of the original two sentences. For the second task, the student is asked to write a sentence that contains a specific word and that complies with the context provided.

Word Reading

This revised subtest requires that the student read a list of words in an untimed format. The examiner notes the progress of the student after 30 seconds, and the student continues with the subtest until the discontinue has been reached.

Essay Composition

The student is required to write an essay within 10-minute time limit to assess spontaneous skills.

Pseudo-Word Decoding

This subtest is presented on a reading card and is administered to students in grade 1 and above. The student's responses are recorded exactly using correct pronunciation or phonetic symbols. Although the student is not told to read quickly, decoding fluency is assessed by noting the pseudo-words read within the first 30 seconds.

Numerical Operations

Items for pre-K students include number recognition, number sequencing (1-10), dictation of specific numbers, and counting. Additional items require the student to respond in writing to solve calculation problems. More items that are difficult involve geometry, percent, decimals, and simple algebraic equations.

Oral Expression

This subtest includes expressive vocabulary, oral word fluency, and sentence repetition. To assess expressive vocabulary, the student is asked to provide a word of the picture stimulus. The oral word fluency task requires the student to provide as many words as possible for a specific category. The final task, sentence repetition, asks the student to repeat sentences of increasing length.

Oral Reading Fluency

This subtest assesses the student's ability to read passages aloud and to respond to question asked about the content of the passages. Speed, accuracy, fluency, and prosody are assessed.

Spelling

The student responds in writing to letters, sound, or words dictated by the examiner. The spelling test includes the presentation of the word, the use of the word in a sentence, and repetition of the word. The student responds in writing.

Math Fluency-Addition

This 60-second math test assesses how quickly and accurately the student can solve addition problems.

Math Fluency-Subtraction

This 60-second math test assesses how quickly and accurately the student can solve subtraction problems.

Math Fluency-Multiplication

This 60-second math test assesses how quickly and accurately the student can solve multiplication problems.

Scoring

Directions for scoring the WIAT-III are provided in the protocol for each subtest. Specific rules, such as when to discontinue or when to reserve the administration process are provided. The examiner must become familiar with each student's scoring result. To assist in scoring the Alphabetic fluency, sentence combining, sentence building, essay composition content and organization, and essay composition grammar and mechanics items, a separate scoring workbook is provided. Examiners can review item example and determine how to score an examinee's work.

Name of the Instrument	Wechsler Individual Achievement Test, WIAT-III
Purpose of the Test	Assessment of academic achievement
Constructs Measured	Reading, written expression, math, listening, comprehension, oral expression
Standardization Information	Included 2,775 students in grades pre-K through 12 and ages 4-19; variables included race/ ethnicity, sex, geographic area, parents' education level; fall and spring testing periods
Reliability Information	Reliability research included internal consistency measures, test-retest, and inter-scorer reliability; coefficients ranged from .81 to .99
Validity Information	Construct validity, content validity, and criterion-related validity research included in manual.

Source: Overton, 2012

Let Us Sum up

More than 5 million students' ages 6 through 21 receive special education and related services each year in the USA. Special education instruction is specially designed to meet the unique needs of students who have different kinds of disabilities. Assessment is the process of gathering information to monitor progress and make educational decisions if necessary. Assessment happens every day in every classroom. The process of assessment plays an important role in the determination of student outcome.

Assessment in special education is the process used to determine a student's specific learning strength and needs to determine whether that student is eligible for special education services.

The Individuals with Disabilities Education Act (IDEA, 2004), Public Law 105-476, lists 13 separate categories of disabilities under which children may be eligible for special education and related services. These are: autism, deaf-blindness, developmental delay, emotional disturbance, hearing impairment, mental retardation, multiple disabilities, orthopedic disabilities, other health impairment, specific learning disabilities, speech and language impairment, traumatic brain injury, and visual impairment.

Assessment consists of an assortment of techniques and procedure for evaluating, estimating, appraising, testing, and drawing conclusions about the students. Unlike typical assessment, assessing students with special needs takes into account unique needs; therefore, it becomes different for each student. The goal is to adapt the process to fit individual needs rather than fitting students into particular assessment procedure.

Unit-End Activities

- ***Objective Questions:*** ***Group "A"***

Tick (↓) the best answer.

1. Specially, special education instruction is designed to:
   - **a. Meet the unique needs of students who have different kinds of disabilities**
   - b. Students who is eligible for general education
   - c. Students who is out of school education
   - d. Students who left the school
2. How many disability categories listed by IDEA, 2004, Public Law 105-476
   - a. 10
   - **b. 13**
   - c. 15
   - d. 12
3. Which one is the primary purpose of assessment in educational setting
   - a. Environment

b. Economic factor

c. Screening and identification

d. Emotional factor

4. Which is the suitable characteristics of emotional disturbance

a. By reason thereof, needs special education and related services

b. Problem in verbal and non-verbal communication

c. Concomitant hearing and visual impairment

d. An inability to learn that cannot be explained by intellectual, sensory, or health factors

5. Which is the first step of the problem solving model

a. Problem identification

b. Problem analysis

c. Plan implementation

d. Problem evaluation

6. Problem evaluation includes:

a. Establishing goals

b. Follow-up

c. Prioritizing concerns

d. Planning and interventions

7. How much percentage is allocated in the sector of civil services for disabled people by Government of Nepal

a. 2%

b. 3%

c. 5%

d. 4%

8. How many subtests are included in Wechsler Individual Achievements Tests- 3rd Edi?

a. 12

b. 15

c. 14

d. 16

- **Short answer questions:** **Group "B"**

1. Define the concept of assessment in special education.
2. List-out the purpose of assessment in special education.
3. What is curriculum based assessment?
4. Define the concept of the standard-protocol model in RtI.
5. Write down the specific plan and programs in education for disabled children in Nepal.

- **Long answer questions:** **Group "C"**

1. Explain the Wechsler individual achievement test-3rd Edi with their subtests.
2. Elaborate the concept and purposes of assessment in special education.
3. Show the difference between the problem-solving model and the standard-protocol model.
4. Explain the importance of assessment of written language in special education.

Points for discussion

- Concept and purpose of assessment in special education
- Assessment and federal law in special education
- Different types of assessments in special education
- Currently using principles and practices of assessment in special education
- Models of assessment using in special education
- Wechsler individuals achievements test and its implication on special education

Unit II: Intellectual Evaluations and IQ testing

2.1 Developmental Disabilities

Developmental disabilities are severe, chronic disabilities that may be intellectual, physical, or both. The term “intellectual disabilities” replaced “mental retardation” in common uses and in *the Diagnostic and Statistical Manual of Mental Disorders (DSM-V).* Before 200 years ago began to educate children who learn slowly. French physician, Jean Itard, tried to educate a young boy who had been found living by himself in the woods- the so-called wild boy of Aveyron. Besides this Maria Montessori (1912), worked with young children with IDD using what is now called *sense training*. This approach uses the visual, auditory, tactile, gustatory, and olfactory senses to help pre-school age children learn about the world around them. Today, Montessori’s methods are still used at the pre-school level for all children, although her original work was with children who had IDD.

Over the past decades, emphasis in the diagnosis of intellectual and developmental disabilities has shifted from strictly a measurement of cognitive abilities (primarily IQ tests) to mix a cognitive abilities and adaptive behaviors. The current definition of intellectual disability by the AAIDD (2013), *Intellectual disability is a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior, which covers many every day social and adaptive skills. This disability originates before the age of 18.* It refers to two separate domains in which limitations must be found before a person can be identified as having IDD. The first are is significantly *below average intellectual functioning;* the second domain reflects limitations in three general indicators of *adaptive skills:*

- Conceptual, mainly the use or misuse of language and self-direction,
- Social, problem in interpersonal relationship such as gullibility and naiveté, and
- Practical; including the ability to use money; travel in the community, and personal care (Kirk, Gallagher, & Coleman, 2015).

Developmental disability is a diverse group of chronic conditions that are due to mental or physical impairments. Developmental disabilities cause individuals living with them many difficulties in certain areas of life, especially in "language, mobility, learning, self-help, and independent living". Developmental disabilities can be detected early on, and do persist throughout an individual's lifespan. Developmental disability that affects all areas of a child's development is sometimes referred to as global developmental delay. Most common developmental disabilities are:

- ***Fragile X syndrome (FXS):*** is thought to cause autism and intellectual disability, usually among boys.
- ***Down syndrome:*** is a condition in which people are born with an extra copy of chromosome 21. Normally, a person is born with two copies of chromosome 21. However, if they are born with Down syndrome, they have an extra copy of this chromosome. This extra copy affects the development of the body and brain, causing physical and mental challenges for the individual.
- ***Pervasive developmental disorders (PDD):*** are a group of developmental disabilities that can cause significant social, communication and behavioral challenges.
- ***Fetal alcohol spectrum disorders (FASD):*** are a group of conditions that can occur in a person whose mother drank alcohol during pregnancy. FASDs are 100% preventable if a woman does not drink alcohol during pregnancy.
- ***Cerebral palsy (CP):*** is a group of disorders that affect a person's ability to move and maintain balance and posture. CP is the most common motor disability in childhood.
- ***Intellectual disability:*** also (sometimes proscriptively) known as mental retardation, is defined as an IQ below 70 along with limitations in adaptive functioning and onset before the age of 18 years, it adversely affect the educational performance of children during the developmental period (DSM-IV, APA, 1994).

Developmental disabilities affect between 1 and 2% of the population in most western countries, although many government sources acknowledge that statistics are flawed in this area. The worldwide proportion of people with developmental disabilities is believed to be approximately

1.4%. It is twice as common in males as in females, and some researchers have found that the prevalence of mild developmental disabilities is likely to be higher in areas of poverty and deprivation, and among people of certain ethnicities. Genetic factors have long been implicated in the causation of developmental disabilities. There is also a large environmental component to these conditions, and the relative contributions of nature versus nurture have been debated for decades.

2.2 Measuring Intelligence

Intelligence is a general concept of an individual's ability to function effectively within various settings; usually assessed by intelligence tests. The measurement of intelligence has been a controversial issue in educational and psychological assessment for the past several years. Even though professionals in the field disagree to some extent about the definition of the term *intelligence* and about the fairness and importance of intelligence testing, the assessment of intellectual ability is mandated by IDEA for the diagnosis of many disabilities. This federal law also requires the assessment of adaptive behavior, or how a student functions within her or his environment, for the diagnosis of mental retardation.

Currently the researchers present a review of several measures of intelligence and adaptive behavior that commonly are used in schools to diagnose students with learning or emotional disabilities. Group intelligence tests may be administrated in school systems to students in the regular education curriculum; for special education diagnostic purposes, however, group IQ tests are not appropriate. Tests constructed to be administrated in an individual setting are commonly used to measure cognitive abilities. Although teachers will not be responsible for administrating intelligence tests, special education teachers should possess an understanding of the interpretation of intelligence test results and their possible implications for educational planning. A general discussion of intelligence testing and the court cases that have influenced current practice are presented before the review of intelligence tests. Intelligence tests measure different skills, including:

- Verbal reasoning and vocabulary: thinking with words
- Fluid reasoning: using language to solve unfamiliar problems
- Visual-spatial and visual-motor skills: thinking with pictures, designs, and hands
- Short-term and working memory: capturing input for temporary storage and manipulating content
- Long-term memory storage and retrieval: recalling factual information and retrieving it from memory
- Processing speed: making small decisions quickly with pencil in hand

2.3 Tests of Intelligence Quotient (IQ)

IQ intelligence quotient; expressed as a standard score, usually with the mean of 100. The results of intelligence tests are usually reported in the form of a standardized IQ score. The IQ is a quotient that is derived in the following manner:

$$IQ = MA \div CA \times 100$$

In this calculation,

MA= mental age of the students

CA=chronological age of the students.

For example using this formula, a child with a mental age of 9 and a chronological age of 11 would have an IQ of around 82. Same as a student with a mental age of 14 and a chronological age of 10 would have an IQ of 140. It is important for the special education professional to understand what an IQ score is and is not.

To possess a basic understanding of IQ scores, the professional educators should consider what is measured by IQ tests, that is, the content and presentation of the items on an IQ test and what the items represents. It is a commonly believed myth that IQ scores are measurement

of potential that is innate in a person. The following statements illustrate some current views about intelligence and intelligence testing expressed in the literature.

"The IQ does not reflect a global summation of the brain's capabilities and is certainly not an index of genetic potential, but it does predict school achievement effectively" (Kaufman 1979).

"Ultimately, intelligence is not a kind of ability at all, certainly not in the same sense that reasoning, memory, verbal fluency, etc…, are so regarded. Rather it is something that is inferred from the way these abilities are manifested under different conditions and circumstances" (Wechsler, 1974).

Even more controversial than the term of intelligence is the apparent bias that may occur by using individuals IQ tests to classify and place students in special education (Reschly, 198). Tyler (1993) questioned using the same definition of intelligence for individuals of all cultures, which reflects the concern that minority students are over-represented in special education classrooms.

Taylor and Richards (1991) noted that persons obtaining similar scores on IQ tests manifest differences in their pattern of responding. These authors found that while White students scored higher on the Wechsler scales than Black and Hispanic students, different patterns were evident, with Black students showing verbal strength and Hispanic students showing strength in perceptual ability.

2.4 Nonverbal Tests of Intelligence

Nonverbal intelligence tests are designed to measure a child's intellectual functioning without the impact of language. these tests rely on visual-spatial skills, and do not require the child to respond verbally. If your child has language processing or communication problems, cannot read, or is acquiring the English language, a traditional IQ test may not accurately measure his intellectual ability. If he is assessed with a nonverbal test of intelligence, he is likely to earn higher scores that reflect his actual level of functioning.

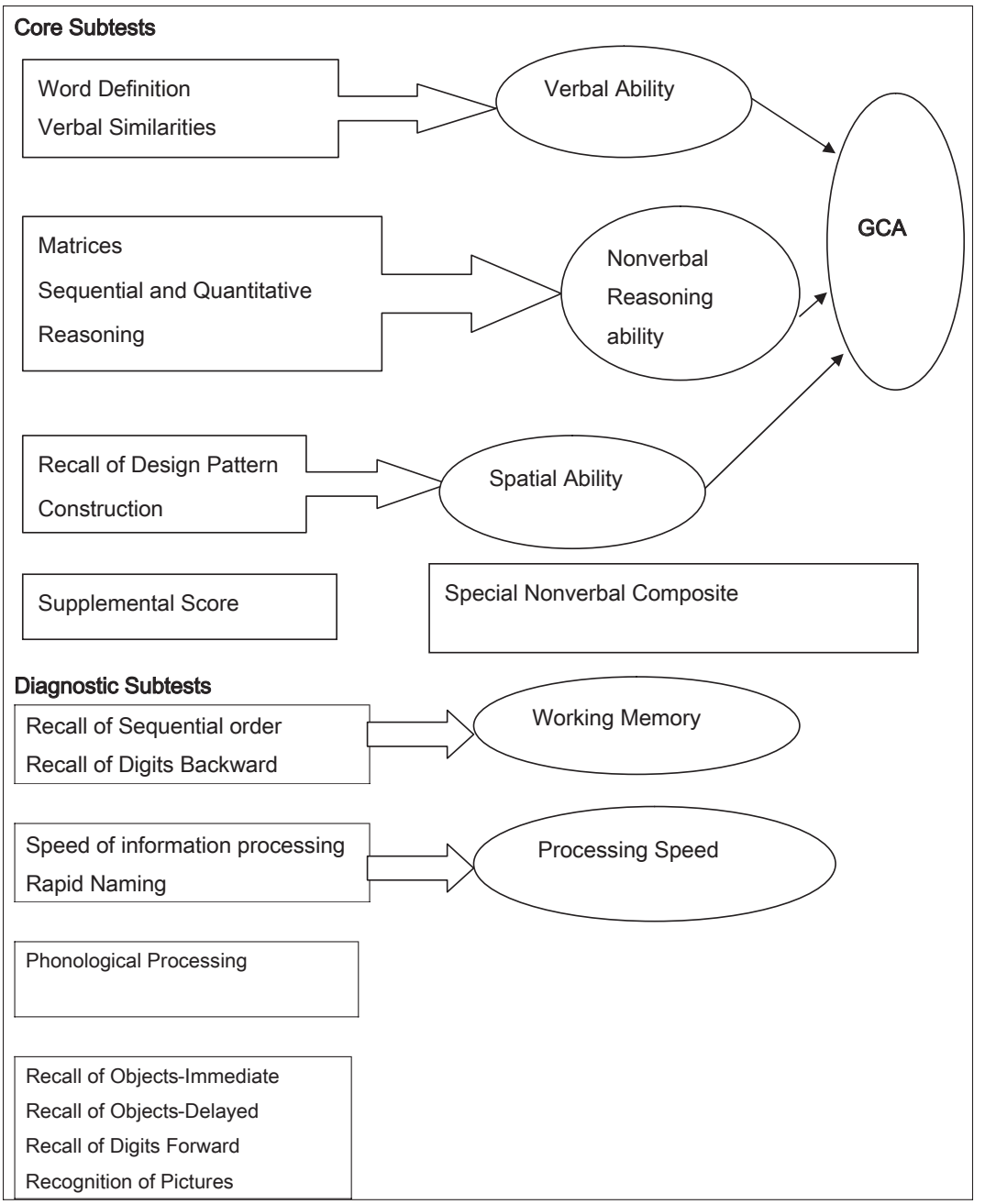
Nonverbal intelligence is the ability to analyze information and solve problems using visual or hands-on reasoning. In other words, it is the ability to make sense of and act on the world without necessarily using words. Nonverbal intelligence describes thinking skills and problem-solving abilities that do not fundamentally require verbal language production and comprehension. This type of intelligence involves manipulating or problem solving about visual information and may vary in the amount of internalized, abstract, or conceptual reasoning and motor skills that are required to complete a task. Nonverbal intelligence is often closely linked with the Performance IQ domain of intellectual ability tests that evaluates nonverbal abilities, a domain which is often viewed in comparison to the Verbal IQ domain.

Some of the commonly used measures- the *Universal Test of Nonverbal Intelligence,* the *Comprehensive Test of Nonverbal Intelligence,* the *Nonverbal Test of Intelligence Third Edition,* and the *Wechsler Nonverbal Scales*- are reviewed here to provide examples of this type of assessment.

Differential Ability Scales-Second Edition

The Differential Ability Scale-Second Edition (DAS-II) (Elliot, 2007), is composed of twenty different subtests that are categorized by age of examinee. Children who are between the year of 2 years 6 months and 3 years 5 months are administered the lower Early Years subtests and children who are between 3 years 6 months and 6 years 11 months are administered the upper Early Years Subtests. Children who are ages 7 years 0 months to 17 years and 11months are administered the School Years Subtests. The author clearly indicates that the General Conceptual Ability (GCA) score is similar to an IQ score; however, it is not made up of a total of all contributing subtests but rather only the subtests that tap into the general conceptual reasoning abilities. This test was designed to measure strengths and weaknesses based on individual subtest scores or combinations of subtests. An example of how individual subtests are combined to assess differential abilities is presented in figure 2.1 as noted.

Figure 2.1 Differential Ability Scale, 2nd Edi. School Age Battery



Source: (Overton, 2012)

In this figure, diagnostic subtests can provide information about the student's working memory or processing speed. The DAS-II includes a special nonverbal composite that is used to score the reasoning abilities of individuals whose verbal skills are compromised, such as those with hearing impairments who are learning the English language.

The Universal Nonverbal Intelligence Test (UNIT)

The Universal Nonverbal Intelligence Test (UNIT) is an intellectual assessment measures for children ages 5 years through 17 years 11 months. It includes six subtests and may be given as a standard battery, abbreviated battery, or extended battery (Bracken & McCallum, 1998). The most typical administrations are the standard battery, which includes four subtests, and the extended battery, which includes all subtests. The abbreviated battery of two subtests is given for screening rather than diagnostic purposes. The test measures reasoning and memory skills through the nonverbal presentation of subtests. The subtest descriptions are presented in figure 2.2.

Figure 2.2 Descriptions of UNIT Subtests

Overview of the UNIT	
Description of the UNIT subtests	
Symbolic Memory	The examinee views a sequence of universal symbols for a period of 5 seconds. After the stimulus is removed, the examinee re-creates the sequence using the symbolic Memory Response Card. Each item is a series of universal symbols for baby, girl, boy, women, and man, depicted in green or black. Symbolic Memory is primarily a measure of short-term visual memory and complex sequential memory for meaningful materials.
	The examinee views a random pattern of green, black, or green and black dots on a 3×3 or 4×4 grid for a period of 5 seconds. After the stimulus is removed, the examinee re-creates the spatial pattern with

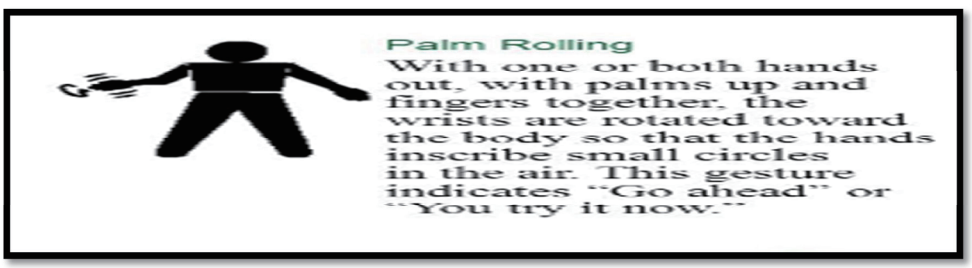
Spatial Memory	green and black circular chips on the blank response grid. Spatial Memory is primarily a measure of short-term visual memory for abstract materials.
Object Memory	The examinee is presented a random pictorial array of common objects for 5 seconds. After the stimulus is removed, a second pictorial array is presented, containing all of the previously presented objects and additional objects to serve as foils. The examinee recognizes and identifies the objects presented in the first pictorial array by placing response chips on the appropriate pictures. Object memory is primarily a measure of short-term recognition and recall of meaningful symbolic materials.
Cube Design	Cube design involves the presentation and direct reproduction of two color, abstract, geometric designs, the examinee reconstructs the design directly on the stimulus book or response mat, using green and white one-inch cubes. Cube design is primarily a measure of visual-spatial reasoning.
Analogic Reasoning	Analogic reasoning presents incomplete conceptual or geometric analogies in a matrix format and requires only a pointing response. The item features either common objects or novel geometric figures. The examinee completes the matrix analogies by selecting from four response options. Analogic reasoning is primarily a measure of symbolic reasoning.
Mazes	The examinee uses paper and pencil to navigate and exit mazes by tracing a path from a center starting point each maze to the correct exit, without making incorrect decisions route. Increasingly complex mazes are presented. mazes is primarily a measure of reasoning and plan full behavior.

Source: Overton, 2012

The test developers designed these instruments to be a fair measure of intellectual ability for children and adolescents for whom it might be difficult to obtain an accurate estimate of ability using tests that are heavily weighted with verbal content. This instrument also may yield a fairer estimate of intellectual ability for students with mental retardation and for students with other disorders that impact verbal communication, such as autism.

In order to present a nonverbal assessment in a manner that does not require spoken language, several gestures for communication during the administration are provided in the manual. For example, palm rolling conveys a message to the students to “continue,” “keep going,” or “Take your turn now.” These gestures are illustrated in the manual; the gesture called ***palm rolling*** is presented in figure 2.3.

Figure 2.3 Palm Rolling



The UNIT yield scores for the various subtest, scaled scores, and a full-scale IQ score. The scaled scores are for the four scales of memory, reasoning, and symbolic and non-symbolic concepts. The memory scale relates not only to the scoring of information, but also to the skills and abilities needed for memory, such as attending, encoding, and organization. The reasoning subtest taps into problem-solving ability. The symbolic scales assesses abilities that are believed to be precursors to understanding and using language, and the non-symbolic scale assesses processing, perception, and integration of information. The symbolic and non-symbolic scales both assess mediation, or what does one cognitively with material as it is processed, associated, and retained or used to solve problems. Subtests scores have a mean of 10, and the scales have quotients with a mean of 100. Standard scores are interpreted according to the following guidelines:

Very superior	>130
Superior	120-130
High average	110-120
Average	90-110
Low average	80-90
Delayed	70-80
Very delayed	>70

Test of Nonverbal Intelligence- Third Edition (TONI-3)

This instrument assesses a single cognitive process: solving novel abstract problems (Brown, Sherbenou, & Johnsen, 1997). The authors state that the TONI-3 is a language and motor-reduced instrument that also reduces cultural influence. It may be used with students ages 6-0 to 89-11. The test package includes two equivalent forms, A and B. the examiner gives direction via pantomime. Administration time is approximately 45 minutes.

Wechsler Nonverbal Scale of Ability

The Wechsler Nonverbal Scale of Ability (Wechsler & Nagliari, 2006) assesses cognitive ability using nonverbal subtests. It may be used with individuals aged 4-0 to 21-11. Examinees aged 4-0 to 7-11 are administered the matrices, coding, object assembly, and recognition subtests; examines aged 8-0 to 21-11 are administered the Matrices, Coding, Spatial Span, and Picture Arrangement subtests. The examiner uses gestures and gives oral instructions for items. The examiner manual provides instructions in the following languages: English, Spanish, Chinese, German, and Dutch. The gestures used are similar to those used in other nonverbal measures and include sweeping the hand, pointing, and dragging a finger across the stimulus.

2.5 Interpreting Intelligence Test Results

If the child is not learning to read, his/her verbal IQ will drop over time. This type of drop is called the Matthew Effects. The Matthew Effects describe the phenomenon where "the rich get richer and the poor get poorer." The Matthew Effects comes from a passage in the New Testament: for unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath."

The Matthew Effects

"Reading Affects Everything You Do"

Children who read poorly and/ or slowly have difficulty remembering what they read. Reading can be hard and unpleasant. If reading difficulties are allowed to continue, the child's problems will only get worse.

Unresolved reading problems have a negative impact on thinking, behavior, and self-concept. Do not delay getting an evaluation!

"Or to put it simply in the words of a tearful nine-year old, who had fallen frustratingly behind his peers, reading affects everything you do."

Test results are most useful when interpreted and presented in a clear format with specific information relating to educational and behavioral strategies. IDEA regulations require that assessment data be interpreted and used to develop educational and behavioral interventions that will be of benefit to the student. Hoy and Retish (1984) determined that test reports generally lacked the characteristics necessary for ease of educational planning. In the model of interpreting test results to assist with *eligibility decisions* and plan program interventions is presented. Intelligence test results, illustrates how to use test results to write effective behaviorally stated short-term objectives, benchmarks, and long –term goals and how to continue to monitor student progress through direct assessment. Behaviorally stated short-term goals include specific observable expectations of the student. For example, rather than "the student will improve in reading ability, "the behaviorally stated short-term objective is "When provided with 5th grade level reading passages, the student will be able to read the passages and correctly answer 90% of the comprehension questions. Benchmarks are set levels of performance that students are expected to reach before moving to the next level. For example, students in the third grade may be expected to reach the math benchmark

of proficiency above 80% in multiplication facts, before moving to the next level in math. Long-term goals are the general expectation for the student over a longer period of time. A long-term goal may be to reach and demonstrate proficiency in math and reading benchmarks or to be able to read and comprehend sixth grade level passages by the end of the school year.

When interpreting the results of standardized tests, classroom observations, student interviews, parent interviews, questionnaires, surveys, and other forms of assessments, it is important to view the child or adolescent and her or his environment holistically. Tharinger and Lambert(1990) offered the following insights educators should bear in mind during the assessment and interpretive processes:

1. A child is dependent on the environment to fulfill basic physiological and psychological needs.
2. A child's family is the most active shaper of her or his environment.
3. A child is also an active participant in shaping her or his environment.
4. A child's functioning is multiply and transitionally determined.
5. A child strives to adapt to her or his environment regardless of the health of the environment.
6. A child's motivations for her or his behavior may not be conscious.
7. A child's attachment, separations, and losses are very significant factors in her or his psychological development.
8. A child's current functioning must be evaluated in light of her or his past functioning.
9. A child's behavior can only be understood in relation to current context and the influence of past contexts.
10. As a child develops, conflicts, tensions, and problems are inevitable and necessary. The important factor for assessment is how the child and significant others respond to these conflicts.
11. If the child's thoughts, behaviors, or feelings appear atypical, it is important to consider where, under what circumstances, and at what developmental level this thought pattern, behavior, or emotional expression would make sense.

12. Both the child and her or his significant environments (i.e., school and home) need to be assessed.

Interpreting Test Results for Educational Decisions

One purpose of the assessment process in to consider test results to determine if a student requires interventions provided through special education services. eligibility is determined by using set criteria stated in IDEA. These criteria may vary from state to state for the different types of disabilities, but they must remain within the IDEA guidelines. This means that definitions and criteria may be written by the state; however, students who would be found eligible according to the federal law must not be excluded by state criteria. The scope of this text focuses primarily on mind to moderate disabilities. The most common types of mind to moderate disabilities are learning disabilities, mental retardation, speech\ language impairment, and emotional or behavioral disturbances. Educators who teach students with mild to moderate disabilities also often serve students with attention disorders. These students may be served in the general education environment under the provisions of Section 504 of the Rehabilitation Act of 1973 or under the IDEA category of “Other Health Impaired” if the attention problem does not coexist with another disability, such as a learning disability. The criteria for the qualification of a specific category and eligibility for special education services as stated in IDEA are used as a basis for interpreting test results.

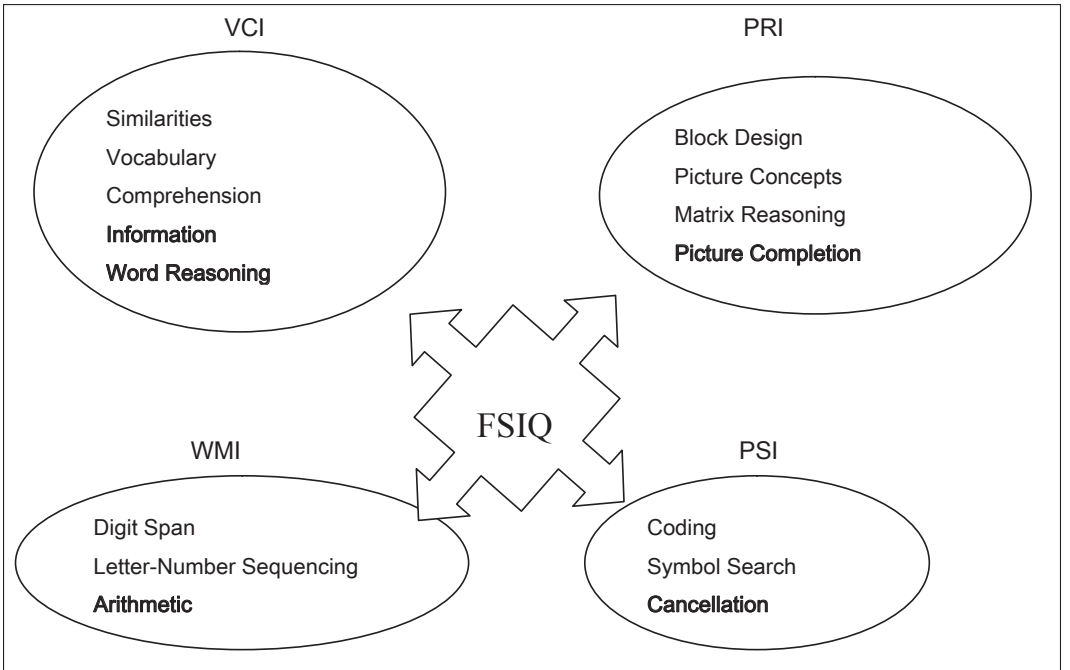
2.6 Wechsler Intelligence Scale for Children- Revised IV (WISC-R-IV)

The WISC-IV (Wechsler, 2003) is designed to assess the global intellectual ability and processing ability of children ages 6-0 through 16-11. Unlike the earlier editions, these test doses not yield verbal and performance IQ scores. The structure of the scoring system is based on the supported factor structure of the test. Therefore, test results are presented with a Full Scale IQ score as well as index or processing scores. The tests developers have reported that the basal and ceiling levels of the instrument have been expanded so that a more accurate assessment of intellectual ability can be obtained for very young students (6 years of age) as

well as students in the older age group (aged 16 years). This provides more accuracy in measurement of ability for children who have cognitive limitations at the younger and who have superior cognitive functioning at the upper end.

The constructs that are assessed by this instrument are presented in Figure 2.3 Subtests are included within each index cluster. Subtests presented in Bolds are supplemental, and can be used if a particular subtest is compromised because of error during administration. A discussion of each subtest is presented in the following section.

Figure 2.3 from the *WISC-IV Technical and Interpretive Manual*



Note: *Supplemental subtests are show in **bolds;** these tests are not used to calculate the child's full-scale IQ score.*
VCI- Verbal Comprehension Index
PRI- Perceptual Reasoning Index
WMI- Working Memory Index
PSI- Processing Speed Index

Source: Wechsler Intelligence Scale for Children, Fourth Edition (WISC-IV)

Subtests of the WISC-IV

The following subtests are grouped by index scores. For example, the Similarities, Vocabulary, Comprehension, Information, and Word Reasoning subtests all support the factor structure of the Verbal Comprehension Index score. This means that research using the scores obtained during the standardization process indicates that these subtests all contribute to the Verbal Comprehension Index. In other words, a student who scores high on these subtests is likely to have strength in the area of verbal comprehension. We would anticipate that students with strength in this area would be able to score consistently across subtests. When a student scores very low on one or two subtests, the psychologist might conduct additional testing to determine if this is a true weakness. The psychologist might also complete cross-battery assessment or collect additional data when a student scores lower on one index than others.

Verbal Comprehension Subtests

The following subtests support the construct of verbal comprehension. These subtests have been found to be heavily weighted in the understanding of language concepts.

Similarities

On this subtest, students are required to compare two words read by the examiner to determine how the two words are alike. The responses may be scored as a 0, 1, or 2.

Vocabulary

The student is asked to define common words. For the younger child, pictures serve as the stimulus for the item. For children aged 9 to 16 years, words are presented as stimuli.

Comprehension

The items on this subtests assess the students knowledge of common concepts learned incidentally or from experiences or the environment. For example, some question tap into understanding of social issues, such as keeping your word to a friend; other items assess information for everyday functioning such as paying bills or maintaining good health. Such items reflect the influence of environment on learning that environment is limited or enriched.

Information

These items assess information that may also be obtained from experiences or education. Item may include question similar to the number of legs a cat has or number of weeks in a month. In other words, this information is likely to have been learned prior to test administration and the student is simply using recall to respond to the question. This is a supplemental subtests of the Verbal Comprehension Index.

Word Reasoning

This subtests presents clues that the child must use to respond with a specific word for a common object. A series of clues is presented, and with each clue, the student is given a chance to respond with the correct answer. This is a supplemental subtests of the Verbal Comprehension Index.

Perceptual Reasoning Subtests

Perceptual reasoning means that a person is able to look at visual stimuli and tap into reasoning skills to solve novel problems. In other words, these types of items may not be as heavily influenced by previous education experiences, but rather require the student to see a stimulus, process that visual concept mentally, and respond with a solution.

Block Design

On this subtest, students are required to manipulate and copy a pattern of red and white blocks. This is a timed subtest and students are awarded additional points when the pattern is copied quickly and accurately. The task requires that students use visual-motor responses and that they have the visual-perceptual ability to understand and reproduce the stimulus.

Picture Concepts

The student is presented with one picture and several rows of pictures. The student must select pictures from the rows of pictures to form a common concept. This task requires the student to use abstract verbal reasoning skills.

Matrix Reasoning

This subtests presents visual stimuli that represent incomplete matrices. The students is asked to select the representation that would complete the matrix. There are four types of matrices on this subtests, including pattern completions, classifications, and analogical and serial reasoning (Wechsler, 2003b).

Picture Completion

The students is required to scan pictures and either name or point to a missing part. This task may be influenced by previous experiences because many of the picture are common object in the environment. This is a supplemental subject of the Perceptual Reasoning Index.

Working Memory Subtests

When an item is presented that requires the student to hold on to the stimuli for a period of time in order to solve the task, it is referred to as a working memory item. These items may require visual or auditory working memory.

Digit Span

On the subtests, the examiner says a series of numbers to the student that the student must repeat as a series. The series become increasingly longer. The series of numbers are presented forward and backward.

Letter-Number Sequencing

On this subtest, the students hears a series of letters with numbers and is required to recall the numbers in ascending order and also the letters in alphabetical order. Children 6 and 7 years old perform the simpler tasks of counting and reciting part of the alphabet.

Arithmetic

This is a supplemental subtest of the Working Memory Index. On this subtest, the child is presented with math problem that must be solved mentally. This subtest requires working memory and some knowledge of math operations and reasoning.

Processing Speed Subtests

The subtests included in this index score assess how quickly a person can complete a task. The subtests included in the index require visual-motor processing and fine-motor skills required to respond to the items. All subtests in this index are timed.

Coding

On this subtest, the student is required to copy visual symbols that correspond to visually presented numbers.

Symbol Search

The student is presented with an initial symbol or with two symbols at the beginning of each row of symbols. The child must scan the row of symbols and determine if one of the initial symbols is present in the row. The task requires visual discrimination and memory.

Cancellation

On this subtest, the student is presented with a page of small pictures and asked to mark all animals. The subtest has two formats of presentation: random and organized. This is a supplemental subtest on the Processing Speed Index.

Scores Obtained on the WISC-IV

Subtests yield raw scores that are converted to derived scaled scores. The scaled scores have a mean of 10. A score is obtained for each of the indices along with the Full Scale Intelligence Quotient. The index scores and the FSIQ scores are based on the standard score with a mean of 100 and a standard deviation of 15. Additional process scores may be obtained; however, these are obtained from data collected by the administration of the existing subtests and are used primarily for diagnostic purpose. For example, data collected during the administration of the Digit Span subtest can be used to obtain the Digit Span Forward and Digit Span Backward scaled scores.

Let Us Sum Up

Developmental disability is a diverse group of chronic conditions that are due to mental or physical impairments. Developmental disabilities cause individuals living with them many difficulties in certain areas of life, especially in "language, mobility, learning, self-help, and independent living". Developmental disabilities can be detected early on, and do persist throughout an individual's lifespan. Developmental disability that affects all areas of a child's development is sometimes referred to as global developmental delay.

Intelligence is a general concept of an individual's ability to function effectively within various settings; usually assessed by intelligence tests. Currently the researchers present a review of several measures of intelligence and adaptive behavior that commonly are used in schools to diagnose students with learning or emotional disabilities. Group intelligence tests may be administrated in school systems to students in the regular education curriculum; for special education diagnostic purposes, however, group IQ tests are not appropriate.

Unit-end Activities

- **Objective Questions:** **Group "A"**

Tick (↓) the best answer.

1. Developmental disabilities are:
   - **a. Severe chronic disabilities that may be intellectual, physical or both**
   - b. Physical related disorders
   - c. Emotional related disorders
   - d. Learning related difficulties
2. Fetal alcohol spectrum disorders (FASD) caused by:
   - a. Father drink alcohol during sexual intercourse
   - **b. Mother drank alcohol during pregnancy**
   - c. Smoking habit of parents

d. Drug abuse

3. Fluid reasoning is related to

a. Thinking with words

b. Recalling factual information

c. Using language to solve unfamiliar problem

d. Making small decisions quickly

4. Processing speed is related to

a. Sound problems

b. Memory problem

c. Information problem

d. Making small decisions quickly with pencil in hand

5. The cube design involves

a. Presentation and direct reproduction of two color, abstract, and geometric designs

b. Short-term recognition

c. Recall of symbolic materials

d. Incomplete conceptual framework

6. Wechsler nonverbal scale of ability assesses

a. Single cognitive process

b. Cognitive ability using nonverbal subtests

c. Multiple cognitive process

d. Motor-reduced instruments

7. "If the child is not learning to read, his/her verbal IQ will drop over time" this type of drop is called

a. Shadow Effects

b. Drop down effects

c. Matthew effects

d. Random effects

8. In the verbal comprehension index, information and word reasoning reflects

a. Interpretation of result

b. Compulsory subtests

c. Technical aspect

d. Supplemental subtests

- **Short answer questions: Group "B"**

1. Define the meaning of developmental disabilities.
2. What kinds of skills measure the intelligence tests?
3. Explain the concept of nonverbal tests of intelligence.
4. Write short notes on Wechsler nonverbal scale of ability.
5. List out the verbal comprehension subtests and explain two of them.

- **Long answer questions: Group "C"**

1. Explain the importance of interpreting tests results for educational decisions.
2. Describe the Wechsler intelligence scale for children- revised IV (WISR-IV) with example.
3. Compare and contrast between the test of nonverbal intelligence- third edition (TONI-3) and Wechsler nonverbal scale of ability.
4. What is measuring intelligence? Explain the skills including in intelligence test measures.

Points for discussion

- Intellectual and developmental disabilities in special education
- Different skills including to measure intelligence tests
- IQ and its importance on special education
- The universal nonverbal intelligence test in special education
- Wechsler intelligence scale for children- revised IV

Unit III: Speech and Language Assessments

3.1 Assessing Speech and Language Skills

The most intensive period of speech and language development for humans is during the first three years of life, a period when the brain is developing and maturing. These skills appear to develop best in the world that is rich with sounds, sights, and consistent exposure to the speech and language of others.

There is increasing evidence suggesting that there are critical period for speech and language development in infants and young children. This means that the developing brain is best able to absorb a language, any language during the period. The ability to learn a language will be more difficult, and perhaps less efficient or effective, if these critical periods are allowed to pass without early exposure to a language. The beginning signs of communication occur during the first few days of life when an infant learns that a cry will bring food, comfort, and companionship. The newborn also begins to recognize important sounds in his or her environment. The sound of a parent or voice can be one important sound. As they grow, infants begin to sort out the speech sounds (phonemes) or building blocks that compose the words of their language. Research has shown that by 6 months of age, most children recognize the basic sounds of their native language.

As the speech mechanism (jaw, lip, and tongue) and voice mature, an infant is able to make controlled sounds. This begins in the first few months of life with cooing, a quiet, pleasant, repetitive vocalization. By 6 months of age, an infant usually babbles or produces repetitive syllables such as “ba, ba, ba” or “da, da, da.” Babbling soon turns into a type of nonsense speech (*jargon)* that often has the tone and cadence of human speech but does not contain real words. By the end of their first year, most children have mastered the ability to say a few simple words. Children are most likely unaware of the meaning of their first words, but soon learn the power of those words as others respond to them.

By 18 months of age, most children can say 8 to 10 words. By age 2, most re putting words together in crude sentences such as “More milk.” During this period, children rapidly learn that words symbolize or represent objects, actions, and thoughts. At this age, they also engage in representational or pretend play. At ages 3,4, and 5, a child’s vocabulary rapidly increases, and he or she begins to master the rules of language. Children vary in their development of speech and language. there is, however, a natural progression or timetable for mastery of these skills for each language. The milestones are identifiable skills that can serve as a guide to normal development. Typically, simple skills need to be reached before the more complex skills can be learned. There is a general age and time when most children pass through these periods. These milestones help doctors and other health professional determine when a child may need extra help to learn to speak or to use language.

Speech and language are related, but they are not the same thing. Speech is the physical process of making the sounds and combinations of language. Language is much more complex than speech; however, speech production is one of its components. Language is essentially the system according to which people agree to talk about or represent environmental events. Once a group of people agree on a system for representing objects, events, and the relationship among objects and events, the system can be used to communicate all their experiences. The language system consists of words and word combinations.

Language is complex and involves multiple domains-nonverbal language, oral language (i.e., listening and speaking), written language (i.e., reading and writing), pragmatic language (i.e., using language for a specific purpose, such as asking for help), phonology, and audiology. How quickly a person can access words or ideas in memory further influences his or her use of language. A child who must struggle to find an appropriate term is at a great disadvantage in a learning and social environment. As he or she grapples to retrieve a word, others have moved on. The student may miss critical pieces of knowledge, connect incorrect bits of information in memory, or have an effective means of showing others all the he or she knows. Such problems can result in lowered levels of achievement and in feelings of confusion, helplessness, and frustration.

Whereas the meaning of language is contained in its words and word combinations, it is speech that permits the transmission of meaning. Speech sounds are not meaningful in themselves, of course. They acquire meaning only if the speaker or listener knows his or her relationship to real events. To state it very simply, speech sounds are a medium for carrying messages.

Language is an integral part of our everyday functioning. At a minimum, we use language for problem solving, communicating, and expressing knowledge. Therefore, when problems in language become evident, it can affect individuals in many different ways. In school, children need language in order to function in the classroom. Without language, a child would have serious disadvantages when compared to other students. Students with difficulties in language may not be able to express to teachers, parents, or peers all that they know. Such problems can result in lower levels of self-esteem, low achievement, confusion, helplessness, and frustration.

Because language plays such a critical role in a child's development, most schools have a speech or language pathologist to help students who are having difficulties with these areas. Speech and language pathologists are specially trained professionals who, working with other professionals throughout the school, gather date and assess the language functioning of individual students. Language processes can be broken down into three general categories:

1. **Form:** when special educators speak of form, they normally are speaking of three interconnected concept:
    - **Phonology:** The knowledge a student has of sounds in language
    - **Morphology:** The smallest meaningful unit of language created by stringing together sounds
    - **Syntax:** The rules used in combining words to make a sentence

2. Content: The importance of meaning; It involves knowledge of vocabulary, relationships between words, and time and event relationships

3. Use: The pragmatic functions of language in varying contexts; It sees the individual as an active communicator whose words and sentences are intentionally selected in relation to the effect the speaker wishes to have on a listener.

According to IDEA 2004, a speech and language impairment can be defined as a communication disorder such as stuttering, language impairment, or a voice impairment that adversely affects a child's educational performance. Simply stated, a child with a *speech disorder* may have difficulties with any of the following:

- Producing sounds properly
- Speaking in a normal flow
- Speaking with a normal flow
- Using his or her voice in an effective way

Children with language disorder may exhibit the following difficulties:

- Difficulty in comprehending questions and following commands (receptive language)
- Difficulty in communicating ideas and thoughts (expressive language)

There are numerous tests one can give to assess speech and language disorders. The speech and language pathologists in the school normally do speech and language evaluations. However, teachers and parents play an instrumental role in these evaluations. Through interviews and observations, a student's teacher, with the parents, can gather and give valuable input to the overall assessment. As a result, both teachers and parents should become familiar with developmental language milestones. Listed below are some important milestones for age's birth to 5:

BIRTH TO 6 MONTHS

- First form of communication-crying
- Sounds of comforts such as coos and gurgles
- Babbling soon follows as a form of communication

- Attaches no meaning to words heard from others

6 TO 12 MONTHS

- Voice begins to rise and fall while making sounds
- Begins to understand certain words
- May respond appropriately to the word no or own name
- May perform an action when asked
- May repeat words said by others

12 TO 18 MONTHS

- Has learned to say several words with appropriate meaning
- Is able to tell what he or she wants by pointing
- Responds to simple commands

18 TO 24 MONTHS

- Great spurt in the acquisition and use of speech at this stage
- Begins to combine words
- Begins to form words into short sentences

2 TO 3 YEARS

- Talks
- Asks questions
- Has vocabulary of about 900 words
- Participate in conversation
- Can identify colors
- Can use plurals
- Can tell simple stories

3 TO 4 YEARS

- Begins to speak more rapidly
- Begins to ask questions to obtain information
- Sentence longer and more varied
- Can complete simple analogies

4 TO 5 YEARS

- Average vocabulary of lower 1,500 words
- Sentences average five words in length
- Able to modify speech
- Able to define words
- Can use conjunctions
- Can sing songs from memory

A comprehensive speech and language assessment will assess the child's receptive and expressive language skills. The assessment should include:

- Background and medical history, language developmental milestones
- Information from teachers and service providers
- Interviews of family and child
- Observations of child
- Audiometric hearing screening
- Review of the child's hearing visual, motor, and cognitive status
- Tests of speech, spoken and non-spoken language, and communication
- Recommendations

Speech and language skills include:

Listening: child respond to questions or points to pictures based on directions or passages that are read aloud.

Oral Expression: child responds verbally to prompts and directions and expresses his thoughts with grammar and logic.

Vocabulary: demonstrates understanding of word meanings, labels pictures, and provides words with the same meaning.

Syntax: child uses words in specific order to form sentences, combines facts into sentences, and repeats sentences from memory.

Semantics: child demonstrates understanding of word meaning.

Nonliteral and Abstract Language: child explains the meaning of figurative expressions and idioms, makes inferences, and interprets words with multiple meanings.

Speech Articulation: child makes the speech sounds that are part of his dialect or language.

The child may also be required to perform tasks related to memory, sound discrimination, phonological awareness, and pragmatics.

Administration speech and language evaluation

Speech and language pathologists (SLPs) conduct speech and language (S/L) evaluations. The SLP may request that the child's hearing and vision be tested. Neuropsychologists, school psychologists, and learning disabilities specialists may assess a child's language skills.

Educational Implications

Because all communication disorders carry the potential to isolate individuals from their social and educational surroundings, it is essential to find appropriate timely intervention. While many speech and language patterns can be called "baby talk" and are part of a young child's normal development, they can become problems if they are not outgrown as expected. In this way an

cause difficulties in learning. Because of the way the brain develops, it is easier to learn language and communication skills before the age of 5. When children have muscular disorders, hearing problems, or developmental delays, their acquisitions of speech, language, and related skills is often affected.

Speech-language pathologists assist children who have communication disorders in various ways. They provide individual therapy for the child, consult with the child's teacher about the most effective ways to facilitate the child's communication in the class setting, and work closely with the family to develop goals and techniques for effective therapy in class and at home. The speech-language pathologist may assist vocational teachers and counselors in establishing communication goals relates to the work experiences of students and suggest strategies that are effective for the important transition from school to employment and adult life.

Technology can help children whose physical conditions make communication difficult. The use of electronic communication system allows nonspeaking people and people with severe physical disabilities to engage in the give and take of shared thought.

Vocabulary and concept growth continues during the years children are in school. As students get older, reading, writing-understanding, and using language-become more complex. Communication skills are at the heart of the education experience. Speech and language therapy may continue throughout a student's school years, either in the form of direct therapy or on a consultant basis. Many speech problems are developmental rather than physiological, and as such they respond to remedial instruction. Language experiences are central to a young child's development.

In the past, children with communication disorders were routinely removed from the regular class for individual speech and language therapy. This is still the case in severe instances, but the trend is toward keeping the child in the mainstream as much as possible. To accomplish this goal, teamwork among the teacher, speech and language therapist, audiologist, and parents is

essential. Speech improvement and correction are blended into the regular classroom curriculum and the child's natural environment.

3.2 Receptive and Expressive Language

The evaluator should have always assessed the child's receptive and expressive language skills. If your child has a receptive language disorder, s/he may:

- Misunderstand what people say
- Have trouble following spoken directions
- Have difficulty organizing his thoughts

A receptive language disorder is also called a language processing disorder. Some children with receptive language disorders have auditory processing disorders. Many children with language processing disorders may appear to have attention deficits.

A receptive language assessment may include tests of the child's vocabulary, grammar and syntax, ability to follow directions, and listening. Tests of receptive language allow the children to show what s/he knows without having to speak. On some receptive language tests, the child points to picture and performs tasks in response to directions. Receptive language disorders involve difficulties in the ability to attend to, process, comprehend, retain, or integrate spoken language.

Same as if the child has an *expressive language disorder*, s/he may:

- Understand more than he can say
- Have difficulty putting words together in sentences
- Use tenses (past, present, future) improperly
- Have trouble finding words and organizing his thoughts
- Struggle in conversations and classroom discussions
- Have difficulty in writing

If a child's cannot express himself, he is likely to get frustrated and behave inappropriately. Parents and teacher often focus on controlling behavior. If adults do not address the communication and expressive language problem that are causing the child's frustration, his behavior problems are likely to escalate. The evaluator will assess the child's expressive language skills with tests that require him to speak. The tests selected will vary depending on your child's age and areas of concern.

A person with an ***expressive language disorder*** (as opposed to a *mixed receptive/expressive language disorder)* understands language better then he or she is able to communicate. In speech-language therapy terms, the person's receptive language (understanding of language) is better than his or her expressive language (use of language). This type of language disorder is often a component in developmental language. Expressive language disorders can also be acquired (occurring as a result of brain damage or injury), as in aphasia. The developmental type is more common in children, whereas the acquired type is more common in the elderly. An expressive language disorder could occur in a child of normal intelligence, or it could be a component of a condition affecting mental functioning more broadly (i. e., mental retardation, autism).

Children with expressive language delays often do not talk much or often, although they generally understand language addressed to them. For example, a 2-year-old may be able to follow two-step commands but not name body parts. A 4-years- old may understands stories read aloud, but may not be able to describe the story even in a simple narrative. Imaginative play and social uses of language (i.e., manners, conversation) may also be impaired by expressive language limitations, causing difficulty in playing with peers. These are children who may have a lot to say but are unable to retrieve the words they need. Some children may have no problem in simple expression but have difficulties retrieving and organizing words and sentences when expressing more complicated thoughts and ideas. This may occur when they are trying to describe, define, or explain information or retell an event or activity.

Comprehensive Receptive and Expressive Vocabulary Test-2nd Edition (CREVT-2)

Authors: Gerald Wallace and Donald D. Hammill

Description of Test: *The comprehensive Receptive and Expressive Vocabulary Test-2nd Edition* (CREVT-2) is an innovative, efficient measure of both receptive and expressive oral vocabulary. This test is a two- subtest measure based on current theories of vocabulary development. Two equivalent forms are available and full-color photos are used on the Receptive Vocabulary subtest. The kit includes examiner's manual, photo album picture book, and record forms.

Administration Time: 20 to 30 minutes

Age/Grade Levels: Ages 4 to Adult

Subtest Information

Receptive Vocabulary

The format for the 61-item Receptive Vocabulary Subtest is a variation of the familiar "Point to the picture of the word I say" technique, featuring the unique use of thematic full-color photographs. The subtest is made up of 10 plates, each of which comprises six pictures. All the picture on a plate relate to a particular theme (animals, transportation, occupations, clothing, food, personal grooming, tools, household appliances, recreation, and clerical materials). The themes represent concepts with which most people are familiar. Five to eight words are associated with each plate and the words increase evenly in difficult from young child through adult. The examiner begins with item 1 on the first plate and asks the person being tested a series of words, one at a time. After each word, the examinee selects from six photographs the one that best goes with the stimulus word. When the person misses two words in a row, the examiner introduces the next plate. The pictures used to give the Receptive Vocabulary Subtest are spiral-bound in a Photo Album Picture Book featuring laminated covers for ease of use and durability. Each plate is printed in full color on heavy varnish-sealed cover stock designed for frequent use.

Expressive Vocabulary

The Expressive Vocabulary Subtest uses the “Define the word I say” format-the most popular and precise way to measure expressive vocabulary. This format encourages and requires the individual to converse in detail about a particular stimulus word, making it ideal to measure expressive ability. The 25 items on this subtest pertain to the same 10 common themes used in the Receptive Vocabulary Subtest (i.e., animals, transportation, occupations, etc), allowing for easy transition from subtest to subtest. The application of ba sals and ceilings allows this test to be given quickly and makes it appropriate for a wide age range.

3.3 Vocabulary Tests

Some vocabulary tests measure receptive skills, i.e., the understanding of word meanings. Other vocabulary tests measure expressive skills, the ability to name a picture or an object, or provide a synonym to an orally presented word. Word retrieval or word finding are terms that describe the child’s ability to access words from his/her memory. If there is a significant difference between the child’s performance on tests of receptive and expressive language, s/he may have deficits in word finding or word retrieval.

Vocabulary tests that are used to make this comparison used include:

- The Peabody Picture Vocabulary Test, Fifth Edition (PPVT-5) and the Expressive Vocabulary Test, Second Edition (EVT-2)
- The Receptive One-Word Picture Vocabulary Test, Forth Edition (ROWPVT-4) and the Expressive One-Word Picture Vocabulary Test, Forth Edition (EOWPVT-4)
- The Comprehensive Receptive and Expressive Vocabulary Test, Third Edition (CREVT-3)

There are different types of word finding difficulties so word findings or word retrieval should be assess as part of a comprehensive speech and language evaluation. Different vocabulary tests

assess skills differently, but each test provides useful information about the child's skills and difficulties. The fact of the child's scores on these tests are significantly different is important. The scores suggest that s/he has word retrieval problems.

The PPVT-5 measures the child understands of word meaning of his/her receptive vocabulary. The EVT-2 measures the ability to name pictures or provide synonyms to spoken words of his/her expressive vocabulary. A child who has difficulties with word retrieval may say, "I know it, but I can't remember it" or "the word is on the tip of my tongue." When a child has word retrieval problems, it is hard to take tests, talk in class, write, calculate math problems, and socialize with others. Word retrieval problems are frustrating!

3.4 Speech and Articulation Tests

A speech and language assessment should describe the child's ability to articulate sounds with accuracy. The evaluation should include tests that identify articulation errors. Test of articulation include the Goldman-Fristoe Test of Articulation, Second Edition (GETA-2) and the Diagnostic Evaluation of Articulation and Phonology (DEAP).

Articulation is the process by which sounds, syllables, and words vocal folds; it is the production of speech sounds. Articulation disorders result from errors in the formation of individual speech sounds. Intelligibility is a measure of how well speech can be understood. Someone with an articulation disorder can be hard to understands because they say sounds incorrectly. Most errors fall into one of three categories: omissions, substitutions, or distortions. An *omission* might be "at" for "hat," whereas a substitution may be "wabbit" for "rabbit" or "thun" for "sun." when the sound is said inaccurately, but sounds something like the intended sounds, it is called a *distortion.* The terms *articulation development* and *phonetic development* both refer to children's gradual acquisition of the ability to produce individual speech sounds.

An evaluation should also include speech samples and an analysis of the sounds, the child can produce with modeling and prompting. The SLP may recommend speech therapy, or monitor changes over time. A speech evaluation should identify factors that contribute to the speech

disorder. Some speech problems are the result of physical factors, hearing loss, cleft lip or palate, cerebral palsy, dysarthria, and acquired apraxia. In other cases, no physical cause id identified.

For example, if your child has problem of stuttering, it disruptions in speech flow that cause his/her to repeat words or parts of words: “D-d-d-don’t go.” He/she may prolong the sound: Sssssssm fell down.” S/he works hard to rearrange his/her words to pronounce them smoothly. S/he may also use filler words such as “Um,” “you know,” or “Like.” In this case we need to get a comprehensive speech and language evaluation by SLP.

The evaluation will include observations, tests, and interviews. The SLP ask if there is family history of stuttering, the evaluation groups will observe the child in different setting and document stuttering behavior and language skill. They also observe the child’s behavior like, Is S/he stressed or embarrassed. The pathologist will also assess the child’s risk for long-term problems. If needed, they will work with you to develop a treatment plan or an IEP.

Apraxia Tests

Childhood apraxia of speech (CAS) is a motor speech disorders. If the child has CAS, s/he has problems saying sounds, syllables, and words. S/he knows what they want to say but his brain has difficulty coordinating his/her muscles to make sounds, syllables, and words. Not all children with CAS have the same symptoms or needs. In addition, an audiologist should evaluate the child’s hearing to make sure hearing problems are not contributing to the child’s speech difficulties.

In an evaluator for childhood apraxia of speech (CAS), the speech language pathologist should focus n three areas:

1. ***Oral Motor Skills:*** The testing oral motor skills includes:
    - Checking for sign or weakness or low muscles tone in the lips, jaw, and tongue

- Having the child move his tongue, smile, and frown to see how s/he coordinate the movement of his mouth
- Evaluating the coordination and sequencing of muscle movements for speech

2. ***Pitch and intonation when speaking:*** pitch and intonations are tested by:
    - Listening to the child to make sure that s/he appropriately stresses syllables in words and words in sentences
    - Determining if the child uses pitch and pauses to mark different type of sentences (e.g., questions vs. statements) and different portions of sentence
3. ***Pronunciation of speech sound in isolation and in context:*** testing pronunciation of speech sounds may include:
    - Evaluating the child's ability to make vowel and consonant sounds
    - Testing his/her ability to say individual sounds and sounds combinations
    - Determining if others understand your child when s/he uses words, phrases, and conversational speech

3.5 Pragmatics and Social Language Evaluations

Pragmatics is a term for the rules of social language. These rules govern how people use language and how they interact socially. Raising your hand before speaking in class and knowing when and how to take turns are examples of pragmatics. Pragmatics also includes making eye contact and maintaining appropriate personal space and body orientation.

Pragmatics includes three communication skills:

- Using language for different purposes
- Changing language according to the needs of the listener or situation
- Following rules for conversations and storytelling

If the child's is on the autism spectrum or has a nonverbal learning disability, s/he may not know how to use language appropriately in social situations. Expect him/her to make inappropriate of

irrelevant comments. Although the child has a communication disorders, s/he may appear rude or disrespectful. Adults may view this as a behavior problem.

The evaluator often tests pragmatics with "what would you do?" questions. On the *Test of Pragmatic Language, Second Edition (TOPL-2),* designed for use by speech-language pathologists, provides important information to all essential and involved school team members (school psychologists, counselors, special educators, and clinical psychologists) about social skills and conflict resolution. Use the *TOPL-2* as part of a full individual evaluation and program planning.

TOPL-2 four principles include:

- Identifying individuals with pragmatic language deficits
- Determining individual strengths and weaknesses
- Documenting an individual's progress
- Researching pragmatic language skills

Same as *TOPL-2* allows you to assess the effectiveness and appropriateness of a student's pragmatic language skills with six core tests:

- Physical setting
- Audience
- Topic
- Purpose (speech acts)
- Visual-gestural cues
- Abstraction

An assessment of pragmatics should include informal observations of the child in different environments such as, in schools, at home, and in the community. Rating system can be used to documents how the child uses language skills to interact socially.

3.6 Test of Language Development-Primary Forth Edition (TOLD-P: 4)

The *TOLD-P: 4* (Newcomer & Hammill, 2008) was designed for use with students ranging in age from 4-0 to 8-11. The theoretical structure is based on a two-dimensional language model, described in the manual. *TOLD-P: 4* contains the following subtests: Picture Vocabulary, Relational Vocabulary, Oral Vocabulary, Syntactic Understanding, Sentence, Imitation, Morphological Completion, and the supplemental subtests of Word Discrimination, Phonemic Analysis, and Word Articulation. The standard scores on these subtests may be used to obtain quotients for the following composites: spoken language, listening, organizing, speaking, semantics, and grammar. Derived scores include scaled scores (mean=10), index scores (mean=100), age equivalents, and percentile ranks. Subtests call for both forced-choice and open-ended responses. The student is also asked to repeat sentences on the Sentence Imitation subtest and fill in missing words for the Morphological Completion subtest. In the Word Discrimination subtests, the student must discriminate between different sounds, which the examiner articulates orally. The student must name pictured items and correctly pronounce the names in the Word Articulation subtest. Table 3.1 lists the skills measured by the subtests; understanding the skills enables the teacher to interpret results and use those interpretations to develop educational plans.

TABLE 3.1

Content within Subtests of the TOLD-P: 4
Picture Vocabulary • Measures the ability to understand the meaning of individual words when they are spoken

Relational Vocabulary

- Measures the ability to organize incoming language into categories that permit the perception of relationships

Oral Vocabulary

- Measures the ability to define individual stimulus words precisely

Syntactic Understanding

- Measures the ability to comprehend sentences having differing syntactic structures

Sentence Imitation

- Measures the ability to repeat complex sentences accurately

Morphological Completion

- Measures the ability to complete a partially formed sentence by supplying a final word that has a proper morphological form

Word Discrimination

- Measures the ability to discern subtle phonological differences between two words spoken in isolation

Phonemic Analysis

- Measures the ability to segment spoken words into smaller phonemic units by remembering and uttering the component of a word that remains after a portion is removed from the original stimulus word

Word Articulation

- Measures the ability to say (i.e., articulate) a series of single words properly

Source: Examiner's Manual for Test of Language Development-Primary: Third Edition (p. 44). Austin, TX: Pro-Ed. 1997.

Let Us Sum Up

Language is an integral part of our everyday functioning. At a minimum, we use language for problem solving, communicating, and expressing knowledge. Therefore, when problems in

language become evident, it can affect individuals in many different ways. The most intensive period of speech and language development for humans is during the first three years of life, a period when the brain is developing and maturing.

According to IDEA 2004, a speech and language impairment can be defined as a communication disorder such as stuttering, language impairment, or a voice impairment that adversely affects a child's educational performance. Simply stated, a child with a *speech disorder* may have difficulties with any of the following areas such as producing sounds properly, speaking in a normal flow, speaking with a normal flow, using his or her voice in an effective way.

Speech-language pathologists assist children who have communication disorders in various ways. They provide individual therapy for the child, consult with the child's teacher about the most effective ways to facilitate the child's communication in the class setting, and work closely with the family to develop goals and techniques for effective therapy in class and at home. Technology can help children whose physical conditions make communication difficult. The use of electronic communication system allows nonspeaking people and people with severe physical disabilities to engage in the give and take of shared thought. Vocabulary and concept growth continues during the years children are in school.

Unit-end Activities

- **Objective questions:** **Group "A"**

Tick (↓) the best answer.

1. The most intensive period of speech and language development for human is
   - **a. First three years of life**
   - b. First two years of life
   - c. First one years of life
   - d. First five years of life

2. Content involves...
   a. Sound in language
   b. **Knowledge of vocabulary, relationships between words, and time and event relationships**
   c. Words to make a sentence
   d. Meaningful unit
3. Phonology means…
   a. Varying of language
   b. Speech disorder
   c. **The knowledge a student has of sound in language**
   d. Importance of language
4. A child with a speech disorder may have difficulties on…
   a. Words to make sentences
   b. Stringing together sounds
   c. Language processes
   d. **Producing sounds properly**
5. Children with language disorder may exhibit...
   a. **Difficulty in communicating ideas and thoughts**
   b. Communication crying
   c. May perform an action when asked
   d. Ask questions
6. Who administers speech and language evaluations?
   a. Psychologist
   b. **Speech and language pathologist**
   c. Therapist
   d. Counselor
7. A child has a receptive language disorders, s/he may
   a. Have trouble to accomplish goal
   b. Have problem in sounds

c. **Have trouble organizing thoughts**

d. Have problem in reading

8. A child has an expressive language disorder, s/he may

a. Have problem in thinking

b. Have trouble in listening

c. Have difficulty on understanding

d. **Have difficulty putting words together in sentences**

- **Short answer questions: Group "B"**

1. Describe the concept of assessing speech and language skills.
2. Explain the concept of language processes.
3. Write the short notes on receptive and an expressive language.
4. Explain the concept of speech and articulation tests.
5. What is pragmatics and social language evaluations?

- **Long answer questions: Group "C"**

1. Describe the test of language development- primary forth edition (TOLD-P: 4) with example.
2. Explain the importance of pragmatics and social language evaluations in special education.
3. Explain the comprehensive receptive and expressive vocabulary test second edition (CREVT-2nd Edi) with example.

Points for discussion

1. Assessing speech and language skills in special education
2. Receptive and expressive language disorders and its effect on children education
3. Vocabulary tests in special education
4. Speech and articulation tests and its implication
5. Pragmatics and social language evaluations in special education

Unit IV: Assessment of Auditory, Visual and Sensory Processing

4.1 Assessment of Sensory Disorders

The assessment of sensory processing is a process that includes the use of standardized tests, administration of caregiver questionnaires, clinical observations, and to make educational decisions. Sensory processing is a broad term that generally refers to the handling of sensory information by neural systems, including the functions of receptor organs and the peripheral and central nervous systems. Our brain uses sight, hearing, smell, taste, and touch to gather information. A processing disorder refers to a problem in the way our brain interprets information from our senses. A processing disorder is not related to intelligence. The most common conditions are auditory, visual, visual-motor, and sensory processing disorders.

If the child has an auditory processing disorder, s/he is likely to have trouble distinguishing sounds and understanding language. If the child has a visual processing disorder, s/he may struggle to see the difference between similar letters, shapes, or objects. In addition, if the child has a sensory processing disorder, s/he may be easily overloaded by what s/he sees, hears, feels, tastes, and smells.

4.1.1 Auditory Processing Disorders

Most of us hear well and so do not give much thought to how we hear. Hearing starts with a very complex set of actions within the outer, middle and inner ear. These actions send the sounds to our brain, and our brain interprets them so we can understand. For example, it tells us the whistling we hear is a bird singing. This is what we call listening, the medical term for it is auditory processing. When a child's ears are working well, but the child cannot understand the sounds they hear, the child may have an 'auditory processing disorder'. Auditory processing is how the child's brain makes sense of what s/he hears. An auditory processing disorder is a weakness in how the brain interprets or processes auditory information. A child with an auditory processing disorder will have weaknesses in some or all of the following areas:

- *Auditory Figure-Ground Problems*

  It makes difficult for the child to focus on what s/he needs to hear when there is background noise. Although we think of classroom as quiet places, they are filled with the sound of heating systems, chairs shuffling, children talking, and noise from the street. These sounds compete with the teacher's voice.
- *Auditory Memory Problems*

  It makes hard for the child to follow directions and learn during lectures and discussions.
- *Auditory Discrimination Problems*

  Affect the child's ability to perceive sounds in words. Poor sound discrimination will affect his/her ability to learn to read and spell, and make it difficult to understand spoken language.
- *Auditory Attention Problems*

  It can compromise the child's ability, and to focus during long tasks that require his/her to listen. S/he may perceive a teacher's lecture as an endless stream of "blah, blah, blah."
- *Auditory Cohesion Problems:* It involves tasks that require verbal reasoning.

Although some parents realize their child has difficulties with understanding from an early age, APD often becomes more obvious when children start at school. Teachers are sometimes the first to spot the difficulty, especially if the children have difficulties learning to read. Concern arises because children with APD often have normal intelligence, and so would be expected to pick up reading at the usual age.

Some children with APD may have tiny differences in the way that brain cells (called 'neurons') are joined together, or send messages to each other. This may make it hard for sounds to be passed on to the areas of the brain which help the child understand language. It is possible such brain cell differences will cause APD. APD may also be caused by long-term middle ear disease ('glue ear') or by limited access to communication. In rare cases, injuries to the head may cause APD.

If the child has an auditory processing disorder (APD), s/he will have difficulty listening, following directions, and hearing speech in noisy environment. S/he may also have trouble learning to spell, read, and understanding information presented verbally. Even though a child with an auditory processing disorder tries to pay attention, she will miss much of what her teachers and friends day. Auditory processing skills are assessing with intellectual assessment and language tests. The *Test of Auditory Processing Skills, Third Edition (TAPS-3)* is designed to assess how well the child understands what she hears.

If we suspect that the child has a hearing loss or an auditory processing deficit, she needs to have auditory testing before she is assessed with the *TAPS-3.* Attention problems should also be ruled out before she is tested. Although a symptom checklist may be helpful, an auditory processing disorder cannot be diagnosed with a checklist alone.

Pediatric audiologists evaluate auditory processing and other hearing disorders. The audiologist will assess the child's hearing in a soundproofed room. The audiologist will ask the child to listen and respond to sounds. S/he will test sounds in quiet and in noise, and will assess the child's ability to discriminate sound sequences and patterns.

After the evaluation, the audiologist may discuss treatments and interventions. Interventions include modifying the environment, teaching compensatory strategies, and auditory training. Auditory processing disorders may result from ear infections, a head injury, or neuro-developmental delays. A child who has chronic ear infections can have listening difficulties for weeks or months after the infection passes. If the child has frequent ear infections, he needs an evaluation by an audiologist.

4.1.2 Visual Processing Disorders

Visual Processing Disorders affect how the brain perceives and processes what the eye sees. A visual processing disorder can cause difficulty in seeing the difference between two similar letters, shapes, or objects; or noticing the similarities and differences between certain colors, shapes, and patterns. These disorders can occur without any vision impairment. Like all

learning disabilities, visual processing disorders can cause lifelong challenges with specific everyday tasks, such as putting things in sequence, copying numbers or words, remembering phone numbers, spelling, judging time, and reading maps.

Visual processing refers to how the child's brain makes sense of what his eyes see. Visual processing is not the same as sight. Visual processing disorders are also called visual perceptual disorders. If the child has visual processing weaknesses, this will affect his/her ability to perform in school. S/he may have difficulties with:

- Copying from books or the board
- Working with graphs and charts
- Writing on line or within margins
- Following directions and schedules
- Writing coherent, well-organized assays
- Understanding place value and fractions
- Telling time and reading maps
- Organizing thoughts, materials, and possessions

A visual processing assessment includes tests of the child's skills in several areas.

- ***Visual discrimination tests:*** require his/her to distinguish between symbols and to identify symbols that are alike or different.
- ***Visual short-term memory tests:*** measure his/her ability to recall geometric shapes or pictures after a short delay.
- ***Visual sequential tests:*** assess whether s/he can remember shapes and/or pictures in the order presented.
- ***Visual figure-ground tests:*** require him to find/identify important details within a complex visual or busy background.
- ***Visual-spatial relations tasks:*** require him to picture how the parts of a puzzle complex design.

- ***Visual-motor tests:*** require him to coordinate his hands with what he sees. On visual-motor tests, the examiner may ask him to copy geometric designs and draw designs from memory. S/he may have to arrange items or blocks in a particular orientation, or follow a path with a pencil while staying within the lines.

In the visual processing disorders, commonly used tests of visual perception and visual-motor ability include:

- The *Beery Buktenica Developmental Test of Visual-Motor Integration, Sixth Education*
- The *Motor-Free Visual Perception Test, Third Education*
- The *Developmental Test of Visual Perception, Third Edition*

These tests may be administered by occupational therapists, neuropsychologists, and psychologists, and by school psychologists and learning disabilities specialists. For the children with visual processing disorders, strategies for school age children's are as follows:

- Allow student to write answers on the same sheet of paper as the questions or offer opportunities for student to explain answers orally.
- Provide paper for writing and math work that has darker or raised lines to make the boundaries more distinct.
- Organize assignments to be completed in smaller steps instead of one large finished product.
- Use a ruler as a reading guide (to keep focus on one line at a time) and a highlighter (to immediately emphasize important information).
- Provide a tape recorder to supplement note taking.
- Have a proofreading buddy for notes and essays.

4.1.3 Sensory Processing Disorders

Sensory processing disorders is a neurophysiologic condition in which sensory input from the environment or from one's body is poorly detected, modulated, or interpreted and/or to which

atypical responses are observed. The indicators of SPD include inappropriate or problematic motor, behavioral, attention, or adaptive responses following or anticipating sensory stimulation. Sensory differences are only considered a “disorder” when they cause significant difficulties with daily routines and tasks (e.g. individual can’t cope or compensate). Is the child clumsy, fidgety, and overly sensitive? Does he have difficulties with speech, fine-motor skills, and coordination? If the answer to these questions is “yes,” the child may have a sensory processing disorder.

Sensory processing disorder is a general term for many neurological or brain-based conditions. Sensory processing disorders exist when sensory signals do not get organized into appropriate responses. Sensory processing disorders (SPD) are often described as “neurological traffic jams.” The brain dose not receive the information needed to interpret sensory information correctly. SPD is a disorder that refers to the way the nervous system receives messages from the environment through the senses, and turns them into appropriate motor and behavioral responses.

A child with SPD has difficulty processing and acting on information received through the senses. This creates difficulty performing countless everyday tasks. The child is likely to have motor clumsiness, anxiety, depression, low self-esteem, and social isolation. S/he is at risk for emotional, social, and educational problems if he does not receive effective treatment. If the child is like many children with sensory processing problems, he may also have behavioral problems.

There are seven sensory systems, which deliver information to our brain about our environment. The brain reacts to this information by sending a coordinated message through these sensory systems causing one or more responses to that stimulus. A sensory issue can occur in three different ways:

- The brain doesn’t receive certain messages due to a disconnection in the neuron cells
- The messages from the brain are not received consistently by a sensory system

- The messages from the brain are received consistently but they do not co-ordinate with the messages that the brain has sent to the other sensory systems

If a person has a sensory issue then they may not respond to certain stimulus in their environment or they may respond in a delayed, different or more extreme way to this than we would normally expect. A person can experience one or more types of sensory issue, which can occur at the same, or different times depending upon their environment. Children and young people with learning disabilities, who have Autism, who have ADHD or other conditions like dyslexia or dyspraxia are more likely to experience one or more sensory issues. Although these can be harder to identify and diagnose because the symptoms of their sensory issue can be "hidden" by the symptoms of their primary condition.

A sensory processing evaluation will assess the child's ability to take in, process, and respond to stimuli form the environment. If the child cannot efficiently process information through his senses (vision, hearing, taste, smell, touch, or movement), s/he is likely to have problems at school.

The evaluation should include standardized and informal testing, observations, and interviews with the child's parents and teachers. The examiner may use questionnaires to determine how the child handles the sensory demands of different settings. Symptoms of sensory processing disorder can be mistake for other conditions, including ADHD, learning disabilities, auditory or visual processing difficulties, and emotional problems.

A comprehensive evaluation should include vision and hearing tests. Based on information from the evaluation, the evaluator may recommend strategies to increase the child's tolerance of different sensations. Occupational and physical therapists who are specially trained in sensory integrative disorders conduct sensory processing evaluations. Diagnoses of sensory processing disorders or sensory integration dysfunctions are controversial. Sensory processing disorders are not included in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V),* or the diagnostic system used by the World Health Organization.

4.2 Assistive Technology Assessments

Assistive technology is “any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of children with disabilities.” IDEA, 2004, Section 602, paraphrasing the legal definition, assistive technologies, or “AT”, are tools (and associated supporting services) which help an individual work around the functional limitations imposed by a disability. AT for learning disabilities and learning differences includes not only computers and high-tech devices, but also innovative uses of everyday technology like voice recorders, cameras, and smart phones, and even low-tech items like day planners, timers, and sticky notes.

The purpose of an assistive technology assessment is to match the capabilities and needs of an individual to the characteristics of an assistive technology device or service. Identification of appropriate technology interventions can be achieved through the implementation of a logical, systematic decision-making approach guided by certain fundamental principles. Assistive technology (AT) includes devices and service to improve the child’s ability to function and learn. AT allows the child to use his strengths to compensate or work around the weaknesses caused by his disability.

AT is a continuum ranging from simple to complex. The school team should consider the least restrictive AT (simplest solution) before a complex solution. The Individuals with Disabilities Education Act (IDEA) requires IEP teams to consider the assistive technology needs of all children with disabilities. Assistive technology assessments focus on three areas:

- Computer access and/ or written expression
- Environmental control
- Augmentative communication

In an assistive technology assessment, an AT specialist interviews parents and teachers. The specialist observes the child at home and in other settings. Some AT specialists use questionnaires like the *Functional Evaluation for Assistive Technology (FEAT).* The *FEAT* has

five scales for members of the child's AT team to complete. The *FEAT* helps AT specialists make recommendations that meet the unique needs of particular child.

Children and adults who have severe speech or language problems use augmentative and alternative communication (AAC) systems to supplement or replace speech. These systems can help the child communicate, interact socially, and learn. AAC includes:

- Picture and symbol boards
- Voice recognition
- Speech synthesis devices

Information from an assistive technology evaluation will help you and the AT select an augmentative and alternative communication (AAC) system. You may also want to consult with a speech language pathologist (SLP) about augmentative and alternative communication systems. Selecting and implementing AT requires more than a simple assessment to ensure a "match" between the student's abilities and the features of a device. The chosen AT must be useful in the student's environment to perform needed tasks.

In order to make this type of recommendation, the student and his/her personal and professional supporters must collaboratively identify the needs and generate solutions that will facilitate the identified goals. The following process is designed to guide educational teams in a systematic consideration and determination of AT for individual students.

1. Initiation of the AT process
2. Identification of the team
3. Assessment for assistive technology
    a. Student
    b. Environment
    c. Tasks
    d. Tools
4. Discussion of AT systems and recommendations

5. Acquisition and implementation
6. Follow-up and ongoing assessment

4.3 Test of Visual Perceptual Skills (TVPS)

The TVPS-4 is the latest update of the standard comprehensive assessment of visual analysis and processing skills. The TVPS is used by many professionals, including occupational therapists, learning specialists, optometrists, and school psychologists. The TVPS-4 remains an easy-to-use assessment for determining visual-perceptual strengths and weaknesses. Norms are based on a nationally representative sample. Additional lower-level items were added to address the needs of younger or more impaired individuals, and norms now extend through 21 years of age, making the TVPS-4 useful or a wider range of examinees.

The TVPS-4 utilizes black-and-white line drawings, bound in a convenient easel-style booklet. The items are still presented in a multiple-choice format, requiring only minimal verbal or motor (pointing) responses. This format is ideal for use with individuals who have impairments in motor, speech, neurological, or cognitive functions.

The TVPS-4 now includes 18 items in each of seven perceptual areas. Ceilings minimize fatigue and ensure that items that are more difficult do not unduly tax younger students, while allowing for reliable and accurate assessment across the age range. The subtests are administered as follows;

- ***Visual Discrimination***- the child is shown a design and is asked to point to the matching design among the choices shown below.
- ***Visual Memory***- the child is shown (for 5 seconds) a design on one page, the page is turned, and the child is asked to choose the same design from among the choices shown on the following page.

- *Spatial Relationships*- the child is shown a series of designs on a page and asked to choose the one that is different from the rest; it may differ in a detail or in the rotation of all or part of the design.
- *Form Constancy*- the child is asked to find one design among others on the page; the design can be larger, smaller, or rotated.
- *Sequential Memory*- the child is shown (for 5 seconds) design sequences, the page is turned, and the child is asked to choose the matching design from among the choices on the following page.
- *Visual Figure Ground*- the child is asked to find one design among many within a complex background.
- *Visual Closure*- the child is shown a completed design on the page and is asked to match it to one of the incomplete patterns.

The TVPS-4 is consistent with current methods of visual information processing used in occupational therapy and optometry. The TVPS-4 also measures the following Cattell-Horn-Carroll theory narrow abilities.

- Visualization
- Flexibility of Closure
- Visual Memory
- Memory Span

Administration and Scoring

The TVPS-4 is individually administered, is untimed, and takes about 25 minutes to complete. Scoring is quick and uncomplicated. Raw scores are reported as scaled scores and percentile ranks for each subtest; the overall total score is reported as a standard score and percentile rank. Age equivalents are also provided for the subtest and overall scores.

Let Us Sum Up

Auditory processing is how the child's brain makes sense of what s/he hears. An auditory processing disorder is a weakness in how the brain interprets or processes auditory information. If the child has an auditory processing disorder (APD), s/he will have difficulty listening, following directions, and hearing speech in noisy environment. S/he may also have trouble learning to spell, read, and understanding information presented verbally.

Visual processing refers to how the child's brain makes sense of what his eyes see. Visual processing is not the same as sight. If the child has visual processing weaknesses, this will affect his/her ability to perform in school. S/he may have difficulties with copying from books or the board, working with graphs and charts, Writing on line or within margins, Following directions and schedules, Writing coherent, well-organized assays, Understanding place value and fractions, Telling time and reading maps, and Organizing thoughts, materials, and possessions.

Sensory processing disorder is a general term for many neurological or brain-based conditions. Sensory processing disorders exist when sensory signals do not get organized into appropriate responses. A child with SPD has difficulty processing and acting on information received through the senses. This creates difficulty performing countless everyday tasks. The child is likely to have motor clumsiness, anxiety, depression, low self-esteem, and social isolation.

Unit-end Activities

- **Objective Questions:** **Group "A"**

Tick (↓) the best answer.

1. If a child has an auditory processing disorder, s/he may have difficulty on…
   a. **Listening, following directions, and hearing speech in noisy environment**
   b. Writing sentence

c. Telling time

d. Organizing thoughts

2. Visual processing disorders are related to

a. Modifying the environment

b. Copying form the books or the board

c. Make a noise

d. Speaking

3. Visual sequential tests are related to

a. Recall geometric shapes

b. Complex visual

c. Pictures in the order presented

d. Symbols

4. A child with sensory processing disorders has difficulty on

a. Visual processing

b. Auditory processing

c. Working with graphs and charts

d. Processing and acting on information received through the senses

5. Assistive technology assessments helps to

a. Improve the child's ability to function and learn

b. Neglects students interests and desire

c. Decrease students ability to thinking

d. Only general students

6. Visual figure ground is related to

a. Incomplete patterns

b. Find one design among many within a complex background

c. Part of the design

d. Alternative choices

7. Test of visual perceptual skills (TVPS) are specially useful for

a. Auditory processing

b. Listening comprehension

c. Visual analysis and processing skills

d. Develop learning ability

8. Assistive technology assessments does not focus on

a. Computer access and/or written expression

b. Environmental control

c. Augmentative communication

d. Incomplete patterns

- **Short answer questions: Group "B"**

1. Define the concept of auditory processing disorders.
2. List-out the difficulties of visual processing disorders.
3. What kinds of test includes in visual processing assessments?
4. Write the importance of assistive technology in special education.
5. Explain the concept of sensory processing disorders.

- **Long answer question Group "C"**

1. Explain the test of visual perceptual skills (TVPS) with suitable example.
2. Why an assistive technology assessment is important on special education? Explain with example.
3. What is an auditory processing disorder? Explain the weaknesses areas that the child has faced in APD.

Points for Discussion

1. Auditory processing disorders in special education
2. Visual processing disorders and its impact on children's learning
3. Sensory processing disorders on special education
4. Assistive technology assessments and its importance on special education
5. Test of visual perceptual skills (TVPS) and its effectiveness on special education

Unit V: Assessment of Different Disorders

5.1 Characteristics : Learning Disabilities (LD), Emotional and Behavior Disorders (EDB), Attention-Deficit Hyperactivity Disorders (ADHD)

Characteristics of Learning Disabilities (LD)

Children with learning disabilities are both puzzling and paradoxical. In spite of never average or higher than average intelligence, student with learning disabilities often find school to be very difficult. Every child's have unique patterns of strengths and challenges, Children with learning disabilities face combinations that are more dramatic. They are like snowflakes; each has his/her own unique structure, combining strengths and needs to form an individual pattern. Children with specific learning disabilities vary in their academic, personal, and social characteristics. Following are the sample characteristics of student with learning disabilities.

Language development
• Delay in learning to speak
• Difficulties with naming objects and word retrieval
• Voice modulation may be problematic
• Limited vocabulary and word uses
Reading
• Delay and difficulties with phonemic awareness, word reorganization and comprehension skills
• May have stronger listening comprehension
• Slow reading rate
• Substitutes words or leaves out words when reading
Written Language
• Avoids or dislikes writing and copying tasks
• Reverses letters and words with poor spelling

• Uneven and poorly spaced/ shaped penmanship
Math
• Difficulty with arithmetic facts and skills
• Challenges with telling and estimating time
• Problem with memorizing information
• Difficulty with interpreting graphs and charts
Social and Emotional
• Difficulty interpreting and understanding others mode/ feelings
• Problem with self control and impulsivity
• Difficulty with realistic goal setting
• Challenges understanding peer and group expectations
Gross and Fine Motor Skills
• May be awkward or clumsy
• Difficulty with buttons, hooks, snaps, zippers, shoelaces
• Awkward pencil grasps, dislike, and avoids games with balls, bats, and moving parts.

Characteristics of Emotional Behavior Disorders (EBD)

Emotional and behavior disorders (EBD) are quite difficult to define in children. There is not clear dividing line, such as an IQ score or the syndromes of autism spectrum disorders. Readers are tempted to skip lightly over technical matters such as definitions in order to get to the more meaty sections that describe students with exceptionalities and how to plan programs for them. We urge that you not do that in this case because the definition of children with EBD is inherent in many of the problems faced by this special field. Federal definition of EBD as found in the Individuals with Disabilities Education Act (IDEA) of 2004:

(i) Emotional disturbance means a condition existing one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performances:

a. *An inability to learn that cannot be explained by intellectual, sensory, or health factors.*
b. *An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.*
c. *Inappropriate types of behavior or feelings under normal circumstances*
d. *A general pervasive mood of unhappiness or depression.*
e. *A tendency to develop physical symptoms or fears associated with personal or school problems.*

(ii) *Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section.*

Characteristics

1. **Externalizing dimension**
   - Exhibits painful shyness or withdrawal
   - Teased or victimized by peers
   - Seems to worry excessively
   - Panics in many situations and seems to have unfounded fears and phobias
   - Appears to have low esteem
   - Solves problems by disengaging
   - Tends to be suicidal or have thoughts of death and retreating from life
   - May be anorexic or bulimic
2. **Internalizing dimensions**
   - Causes or threatens physical harm to people and animals

- Uses obscene gestures frequently
- Ignores directions and reprimands
- Is verbally hostile, including argumentative
- Have tantrums, fits, rages
- Damages property and belongings or others
- Violates rights of others and societal norms

Characteristics of Attention-Deficit Hyperactivity disorders (ADHD)

Attention deficit hyperactivity disorder (ADHD) is a complex mental health disorder that can affect your child's success at school and their relationships. The symptoms of ADHD vary and are sometimes difficult to recognize. Many of the individual symptoms of ADHD are normal for children to experience. Evaluating the child under several criteria is necessary to make a diagnosis of ADHD. ADHD is generally diagnosed in children by the time they're teens. The average age of diagnosis is seven. Older children exhibiting these symptoms may have ADHD, but they often have exhibited rather elaborate symptoms early in life.

The characteristics of children with ADHD are given in the diagnostic and statistical manual of mental disorders (DSM-5). According to the American Psychiatric Association "ADHD is characterized by a pattern of behavior, present in multiple settings, that can result in performance issues in social, educational, or work setting". ADHD symptoms, which must present prior to age 12, fall into two categories: inattention and hyperactive/impulsive.

Symptoms of Attention-Deficit/ Hyperactivity Disorder
Inattention • Fails to give close attention to details • Difficulty sustaining attention in tasks • Does not seem to listen when spoken to directly • Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace

- Often has difficulty organizing tasks and activities
- Often loses things necessary for tasks or activities
- Is often easily distracted
- Often forgetful in daily activities

Hyperactivity

- Often fidgets with hands or feet or squirms in seat
- Often leaves seat in classroom or in other situations in which remaining seated is expected
- Often runs about or climbs excessively
- Often has difficulty playing or engaging in leisure activities
- Often is “on the go” or as if “driven by a motor”
- Talks excessively

Impulsivity

- Often blurts out answers before questions are completed
- Has difficulty awaiting turn
- Interrupts or intrudes on others

Note: *symptoms of inattention, hyperactivity, and impulsive must have persisted for at level six months and occur in multiple setting (such as home, school, work) to a degree that is maladaptive and inconsistent with the developmental level of the individual.*

5.2 Assessing LD, EBD and ADHD

Learning disability are neurological conditions. Learning disabilities are not caused by environmental factors, poverty, or cultural differences. Learning disabilities often co-exist with other neurological conditions like Attention-Deficit/ Hyperactivity Disorder (ADHD), mood disorders, and anxiety disorders. The terms learning disability and specific learning disability are used interchangeably.

Assessing Specific Learning Disabilities

If the child has a specific learning disability, his/her disability affects *specific* areas. For example, math may be strength for the child, although he struggles with reading and written language. S/he may have trouble listening or speaking. Or s/he may have learning disabilities that affect several areas reading, written language, spelling, and math.

The child's learning disability may be identified because there is a severe discrepancy between his ability to learn and his actual academic performance. If his team determines that he has a disability and needs specialized instruction, he may be eligible for special education services and an Individualized Education Program (IEP).

The only way to know if the child has a learning disability is to get a comprehensive psycho-educational evaluation. A comprehensive evaluation will answer your questions about whether the child is performing at grade level and at his intelligence level in reading, spelling, writing, and math. Depending on the test results, the evaluator may do additional testing. At a minimum, the evaluation should include:

- Intelligence test
- Academic achievement tests
- Auditory processing tests
- Tests of visual perceptual processing skills

An evaluation for a specific learning disability should assess the child's intellectual ability and academic skills. The evaluation should include:

- Background and family history
- Interviews with parents, teachers, and the child, if appropriate
- Intelligence (IQ) testing
- Academic achievement testing
- Additional testing, depending on child's presenting problem and test findings

- Classroom observations

Intelligence test measure the child's ability to learn, memory, phonological processing, processing speed, and other skills. Academic achievement tests measure his listening, speaking, reading, writing, and math skills. An evaluation for a specific learning disability should assess the child's skills in reading, including:

- Phonological awareness
- Knowledge of speech sounds, including vowels, consonants blends
- Reading comprehension
- Silent reading
- Oral reading

An evaluation may include informal tests and criterion-referenced tests that assess the child's written and oral expression, and listening comprehension. The evaluation should observations of the child's behavior and classroom work samples. The evaluation should address all areas related to the child's suspected disability. A comprehensive psycho-educational evaluation will give you a roadmap for the future and will help you track the child's progress over time.

The evaluation report should describe test conditions, how the child responded to the test situation, and the child's behavior during testing. The report should include a list of tests given and the child's scores as standard scores, percentile ranks, and age and grade equivalent scores. These scores document how the child performed when compared to his peers. The report should also include recommendations for the child's educational program and suggestions for accommodations and modifications.

After school professional evaluate the child, the school team may *identify* the child with a learning disability. All team members-including parents-provide input to this decision. A comprehensive assessment to *diagnose* a specific learning disorder is conducted by professionals who have expertise in psychological/cognitive assessment and specific learning disorder.

Assessing Emotional and Behavior disorders (EBD)

In special education term and definition emotional and behavioral disorders has brought about many disputes without reaching an agreement. Many suggestions have been made with respect to definition, prevalence, characteristics, and causes of emotional and behavioral disorders and different experts have different opinion on the subject. In order to assessing a specific emotional or behavior disorder, clinical psychologist or individuals under their supervision conduct a comprehensive evaluation. Research indicates that evaluations that use information from many sources are the most helpful in diagnosing and treating emotional and behavioral disorders. For the evaluation of EBD, make the most accurate diagnosis and formulate a comprehensive treatment plan to provide information. Assessing process of EBD is as follows:

Screening, Pre-Referral Interventions, Referral

Screening can led to early identification and intervention, which can minimize effects of EBD on individuals and home. Pre-referral intervention reviews indentified behaviors and academic problems of students in order to reduce the possibility of its progression and solve the problem. Minimizing the possibility of assigning them to setting that is more limited. If problems are not solved in the pre-referral stage, the official evaluation is requested to the diagnostic assessment team. The team than, observe and evaluates the current level of the student's intellectual, academic, social, physical, and emotional aspects.

Diagnostic Evaluation

When assessing EBD, it is most effective to take systematic, comprehensive, and interdisciplinary approach. When evaluating students, it is necessary that special and general education teachers and other stakeholders participate in evaluating cognitive, emotional, social, academic, medical, and functional aspects.

Functional Behavioral Assessment

Functional behavior assessment is a process of understanding causal relation behaviors, and a multi-level evaluation system that ranges from interview to direct observation and function analysis. Interview is the easiest method and questions are asked to people who know the children best including teachers and parents. The interviewer specifically describes the target behavior and asks the guardians who have observed the child for a long time about frequency, degree, period, and setting of the behavior.

Projective Test

Projective test can be used for assessing students with EBD. This type of tests present ink dots, cartoon characters, or word or sentence completion test. The test questions do not request right or wrong answers, but open answers like “what do you think?”. Projective test was developed in a way that reveals individuals internal desires, conflicts, emotion, and imaginations.

Assessing Attention-Deficit/Hyperactivity Disorders (ADHD)

Attention-Deficit/Hyperactivity Disorders (ADHD) is neurological conditions that can occur alone or with other learning disabilities. Two federal laws protect the rights of eligible children with ADHD-the Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act of 1973 (Section 504). The regulations that implement these laws require school districts to provide a “free appropriate public education” to all children who meet the eligibility criteria in these laws.

Although some children with ADHD are distractible, impulsive, or hyperactive, a child’s behavior during testing is often different from his behavior in the classroom. The assessment provides a window into how the child functions within a highly structured, one-on-one situation, without the distractions in a classroom. School personnel often advise parents that their children are not eligible for special education because they make passing grades and are passing from grade to

grade. This is not correct. The law requires schools to provide a free, appropriate education to any child with a disability who needs special education “even though the child has not failed or been retained in a course or grade, and is advancing from grade to grade.

If the child has a disability but does not need special education services, he may be eligible for protections under section 504 of the Rehabilitation Act. If ADHD adversely affects his ability to learn- a major life activity for children-s/he may qualify for services under section 504. When a child has ADHD, many things complete for his attention. His/her body may be in constant motion. If the child’s distractible, his/her ability to pay attention to asks will vary. Tests may not measure his true ability to learn. The evaluator is responsible for determining if the child’s test scores accurately represents his/her abilities, or if they are, measures his/her behavioral and the impact of his disability.

The only way to know if the child has ADHD is to have him undergo a thorough evaluation. A comprehensive evaluation for ADHD includes several components:

- Background and family history
- Interviews with parents and teachers
- Psycho-education evaluation to assess intelligence and academic skills
- Responses to standardized behavior rating scales

If the child has problem with auditory memory, speech, or reading, these may be symptoms of an auditory processing disorder. If the child seems to hear sounds, but does not appear to process what is said, his/her assessment should include an auditory processing assessment.

The evaluation may include neuropsychological tests to assess the child’s memory, executive functioning (planning, Organizing, and motivation), visual-spatial processing, and speed of processing. The evaluator will look for symptoms of inattentiveness, hyperactivity, and impulsivity that are apparent before age 12. These symptoms must occur in two or more settings.

5.3 Adaptive and Functional Behavior Assessments (FBA)

Functional behavior assessment (FBA) is designed to help the child's and his/her teachers understand to behaviors and the purpose they serve. The team can use this information to develop a plan to teach him replacement behaviors that will meet his/her needs.

Adaptive Behavior Assessments

Adaptive behavior is a term for the skills of the child needs to live safely and independently in the community. Adaptive behavior includes:

- Communication skills
- Academic skills
- Daily living or independent functioning skills
- Social skills

An adaptive behavior assessment is used to determine if the child has the age appropriate skills s/he needs to live safely and independently and participate in the community. Typically, an adaptive behavior assessment includes questionnaires and interviews with parents, teachers, and social workers. The evaluator may also interview the child. The evaluation often includes observations of the child at home, in school, and in the community or workplace. When evaluator and teachers conduct adaptive behavior assessments, the child may display different behaviors and skills in different settings. An adaptive behavior assessment should include information from parents, teachers, and others who know the child. The examiner will use behavior scales and checklists to obtain information from these responders.

Typically, parents rate the child's behavior at home (e.g., eating, sleeping, recreation, self-help, relation with siblings and other family members). Teachers are behaviors that occur at school (e.g., attention, academic performance, peer relations). A vocational counselor may rate behavior that occurs in the workplace. All perspectives are helpful in obtaining an accurate picture of the child.

Part of the evaluator's job is to assess each respondent's credibility. All respondents will not agree on how child parents, what s/he does, or how often s/he display a particular behavior. Some respondents may minimize or exaggerate the child's behaviors. The child may behave differently in different environments. No test measures all areas of adaptive behavior. The examiner should select appropriate adaptive behavior scales and/or behavior checklists for the child.

Dozens of adaptive behavior scales and behavioral checklist are available. Some measure a few broad factors (e.g., conduct problem, personality problem, and immaturity). Others measure many factors (for example, hyperactivity, withdrawal, aggression).

Adaptive behavior scales and checklists differ in the responses they require. Some have two responses ("yes" or "no," "true" or "false"). Others require informants to rank responses (for example, on a scale of 1-5). Ratings may be based on a specified time period ("How often was the child aggressive within the last week?") or no time period ("How aggressive is the child?").

The *Assessment of Basic Language and Learning Skills, Revised (ABLLS-R)* is designed to measure language, self-help, social interaction, academic, and motor skills in children who are on the autism spectrum. It can be used to measure progress and as a guide for instruction.

The *Adaptive Behavior Assessment System Second Edition (ABAS-II)* uses a rating format to document skills in the home, school, workplace, and community. The *ABAS-II* rates health, self-care, safety, academics, communication, social interaction, and self-direction skills.

The scope of the adaptive behavior assessment depends on the child. The interviewer may use rating scales and checklists that are objective and easy to score. These tests ask parents, teachers, and sometimes the child, to indicate the presence and degree of different behaviors. Answer the questions openly and honestly. Describe what the child does, not what he "can do." It is helpful if you provide the interviewer with examples of the child's skills and behaviors, and examples of your concerns about the child's limitations. If you do not understand a question, ask the interviewer to clarify what the question means.

Functional Behavior Assessments (FBAs)

A functional behavior assessment (FBA) is based on the assumption that problem behaviors serve a purpose for the child. An FBA is the process of collecting information about the behaviors. The information collected is used to determine why a behavior happens, the purpose it serves, and to develop a plan to change it.

In an FBA, a behaviorist of behavior specialist will observe the child in different settings, depending on where the behavior occurs or does not occur-in the classroom, the cafeteria, the playground, and at home. The team observe the frequency, duration, intensity, rate, and location of the behavior.

The behavior specialist should interview parents, children, and child's teachers. They should also review the child's records and assessment, and may use tests of checklists to gather information. This process will lead the behavior specialist to a hypothesis or educated guess about what triggers the behavior and what purpose it serves. The child's team will use this information to develop a positive behavior intervention plan. Positive behavior interventions should be used before problem behaviors occur.

Behavior specialists and behaviorists are trained to record, analyze data, and make recommendations based on their findings. These specialists use knowledge of psychology, learning disorders and special education to design plans to teach and reinforce positive behavior. Behavior specialists are trained to work with special populations, including children with autism or intellectual disabilities.

5.4 Kaufman Assessment Battery for Children- Revised Second Edition (K-ABC-R-II)

The Kaufman Assessment Battery for Children, Second Edition (K-ABC-II) assesses the cognitive ability of children aged 3-0 to 18-11. This newly revised instrument includes a revised method of scoring and interpretations. Although classroom teachers cannot administrate this

instrument, an understanding of the theoretical bases of the scoring will assist the teacher in interpreting the results and developing interventions. Before the test is administered, the psychologist must decide which theoretical base will used to administer and score the instrument. A brief explanation of each theoretical base is as follows.

One theoretical base, Luria's neurological processing theory is quite extensive; however, one of the major premises of the theory is that the brain functions using two modes of processing: *Simultaneous and Sequential*. The K-ABA-II includes subtests that assess a student's ability to perceive and process information that is presented sequentially. This means that each stimulus that the students processes is linked to the previous stimulus and must be processed sequentially in order to perform that task or solve the problems. Other subtests include items that must be processed simultaneously, that is. Stimuli must be processed and integrated at the same time in order to perform the task.

The K-ABC-II, using the Luria model, yields scale index scores for sequential processing, simultaneously processing, learning, planning, and mental processing for the general measure of cognitive ability.

The other theoretical base for scoring is the Cattell-Horn-Carol theory of intelligence. This theory is founded o three levels, or stratums, of intellectual ability. The first level is general intellectual functioning, commonly called the g factor. The next level is composed of broad cognitive abilities, and the final level is made up of narrow abilities of cognitive functioning. The CHC theory is sometimes described as *broad Fluid and crystallized* abilities. The K-ABA-II yields a Fluid Crystallized Index score for the global cognitive score.

Additional scale indexes include Gsm for short-term memory, Gv for visual processing, Glr for learning, Gf for fluid reasoning, and Gc for crystallized ability. Tasks that assess Gsm processing includes those that require short-term and working memory. Tasks that assess Gv are those that require, for example, visual memory, spatial relations, spatial screening, and visualization. Tasks that measure Glr require long-term memory and recall. Tasks scored on the

Gf scales requires fluid reasoning or adapting and solving novel problems for figuring out how to do something one has not been exposed to in the past. The Gc scale assesses general information learned from the environment or previous experiences.

Another index used to score the *K-ABC-II* is the Nonverbal Index. This index includes subtests that do not rely heavily on language skills or learned verbal concepts. For example, the examinee might be asked to solve problems that require copying visual patterns using manipulative or to imitate hand movements. This scale is especially appropriate for students who may not have mastery of the English language or who may have other language difficulties. It can be used to provide an estimate of cognitive functioning without using subtests that are heavily weighted in language or verbal concepts. For very young children, only a general cognitive score is available. Either the Fluid Crystallized Index or the Mental Processing Index scores may be obtained.

Let Us Sum Up

Every child's have unique patterns of strengths and challenges, Children with learning disabilities face combinations that are more dramatic. They are like snowflakes; each has his/her own unique structure, combining strengths and needs to form an individual pattern. Children with specific learning disabilities vary in their academic, personal, and social characteristics.

Emotional disturbance means a condition existing one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performances like as: an inability to learn that cannot be explained by intellectual, sensory, or health factors. Beside this, an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, Inappropriate types of behavior or feelings under normal circumstances, a general pervasive mood of unhappiness or depression, and a tendency to develop physical symptoms or fears associated with personal or school problems.

Attention deficit hyperactivity disorder (ADHD) is a complex mental health disorder that can affect your child's success at school and their relationships. Attention-Deficit/Hyperactivity Disorders (ADHD) is neurological conditions that can occur alone or with other learning disabilities.

Unit-end Activities

- **Objective Questions:** **Group "A"**

Tick (↓) the best answer.

1. Limited vocabulary and word uses are the characteristics of…
   - **a. Language development**
   - b. Written language
   - c. Reading
   - d. Gross and fine motor skills
2. Challenges with telling and estimating time are the characteristics of…
   - a. Social and emotional
   - **b. Math**
   - c. Writing language
   - d. History
3. Panics in many situations and seems to have unfounded fears and phobias is the characteristics of…
   - a. LD
   - b. ADHD
   - **c. EBD**
   - d. HI
4. ADHD symptoms, which must present prior to age 12, fall into…
   - a. Inattention
   - b. Hyperactive

c. Attention

d. Inattention and hyperactive/impulsive

5. Often blurts out answers before questions are completed is the characteristics of…

a. Impulsivity

b. Hyperactivity

c. Inattention

d. Attention

6. Which is not related to hyperactivity characteristics of ADHD children?

a. Often fidgets with hands or feet or squirms in seat

b. Fails to give close attention to details

c. Often runs about or climbs excessively

d. Talks excessively

7. Adaptive behavior assessment does not includes

a. Communication skills

b. Academic skills

c. Writing skills

d. Social skills

8. Functional behavior assessment is the process of…

a. Collecting academic skills

b. Collecting functioning skills

c. Collecting vocational skills

d. Collecting information about the behavior

- **Short answer questions: Group "B"**

1. Explain the characteristics of emotional behavior disorders (EBD).
2. What is learning disability? List-out the characteristics.
3. Mention the hyperactivity characteristics of EBD.
4. Explain the assessing process of EBD in short.
5. Explain the concepts of ADHD.

- **Long answer questions:** **Group "C"**

1. Describe the concept and importance of adaptive and functional behavior assessments (FBA).
2. Explain the Kaufman assessment battery for children-revised second edition (K-ABC-R-II) with suitable example.
3. What is EBD? Explain the external and internal dimension of EBD.

Points for discussion

- Concept and characteristics of LD, EBD, and ADHD
- Assessing process of both LD, EBD, and ADHD on special education
- Adaptive and functional behavior assessments (FBA) in special education
- Kaufman Assessment Battery for children-Revised 4th Edi (K-ABC-R-IV)

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