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Children with Learning Disabilities : Effective Teaching Learning Strategies

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Learning disabilities are neurologically-based processing problems. These processing problems can interfere with learning basic skills such as reading, writing and/or math. They can also interfere with higher level skills such as organization, time planning, abstract reasoning, long or short term memory and attention. It is important to realize that learning disabilities can affect an individual's life beyond academics and can impact relationships with family, friends and in the workplace.

Since difficulties with reading, writing and/or math are recognizable problems during the school years, the signs and symptoms of learning disabilities are most often diagnosed during that time. However, some individuals do not receive an evaluation until they are in post-secondary education or adults in the workforce. Other individuals with learning disabilities may never receive an evaluation and go through life, never knowing why they have difficulties with academics and why they may be having problems in their jobs or in relationships with family and friends.

Learning disabilities should not be confused with learning problems which are primarily the result of visual, hearing, or motor handicaps; of mental retardation; of emotional disturbance; or of environmental, cultural or economic disadvantages.

Generally speaking, people with learning disabilities are of average or above average intelligence. There often appears to be a gap between the individual's potential and actual achievement. This is why learning disabilities are referred to as "hidden disabilities": the person looks perfectly "normal" and seems to be a very bright and intelligent person, yet may be unable to demonstrate the skill level expected from someone of a similar age.

A learning disability cannot be cured or fixed; it is a lifelong challenge. However, with appropriate support and intervention, people with learning disabilities can achieve success in school, at work, in relationships, and in the community.

"Learning Disabilities" is an "umbrella" term describing a number of other, more specific learning disabilities, such as dyslexia and dysgraphia. Today these disorders are also known as specific reading disabilities, specific writing disabilities or specific mathematics disabilities.

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Characteristics of Learning Disabilities

Students with learning disabilities are not all alike. The most common characteristics are specific difficulties in one of more academic are; poor coordinate; problem paying attention; hyperactivity and impulsivity; problem organizing and interpreting visual and auditory information; disorder of thinking, memory, speech, and hearing; and difficulties making and keeping friends (Hallahan & Kauffman, 2003).

Many students may have some of the same characteristics. To complicate the situation even more, not all students with learning disabilities will have these problem, few will have have all of the problem. One student may be three years behind in reading but above grade level in math, while another student may have the opposite strengths and weaknesses and a third may have problem with organizing and studying that effect almost all subject areas. Based on the frequency of occurrence, the following characteristics have been defined as widely prevalent in individuals with learning disability:

1. Disorder of attention
2. All perceptual impairments
3. Haptic perception
4. Motor coordination deficits
5. Disorders of memory and thinking
6. Specific difficulties in the areas of reading, writing, arithmetic and spelling
7. Disorders of language
8. Disorder of listening
9. Social and interpersonal characteristics

Types of Learning Disabilities

Disorders of Reading (Dyslexia):

Dyslexia, also known as reading disorder or alexia, is a learning disability characterized by trouble reading despite a normal Intelligence. Different people are affected to different degrees Problems may include sounding out words, spelling words, reading quickly, writing world pronouncing words when reading aloud and understanding what was reads. Often these difficulties are first noticed at school. The difficulties are not voluntary and people with this disorder have normal desire to learn.

The cause of dyslexia is believed to involve both genetics and environmental factors. Son cases run in families. It often occurs in people with Attention deficit hyperactivity disorder (ADHD) and is associated with problems

with mathematics. When the condition begins in adults may result of a traumatic brain injury, stroke, or a dementia. The underlying mechanism involve problems within the brain's processing of language. Diagnosis is by a series of tests of a person memory, spelling, ability to see, and reading skills. It is separate from reading difficulties due to poor teaching, or hearing or vision problems.

Treatment usually involves adjusting teaching methods to meet the person's needs. While this does not cure the underlying problem, difficulties can be ameliorated. Treatments aimed at vision are not effective. Dyslexia is the most common learning disability affecting about 3 to 7 percent i people. While it is diagnosed more often in males, some believe in actually affects male and females equally. Up to 20 percent of the population may have some degree of symptoms. Dyslexia occurs in all areas of the world. There are many famous people with dyslexia, including the first president of the United State- George Washington & Albert Einstein.

A dyslexic child reads slowly, often reversing letters, words and numbers. The child may try to guess while reading, omitting or adding words not in the text. He may have a poor vocabulary and weak comprehension. The dyslexic readers fail to perceive and analyse distinctive features automatically; cannot tell the sequential features of a story, which affects the comprehension; and focus less on meaning.

Dyscalculia :

Dyscalculia is defined as a structural disorder of mathematics which has its origin as a constitutional disorder without simultaneous disorder of general mental functioning. A student could be low functioning in mathematics yet have above average intelligence. Dyscalculia can be grouped into following categories:

- Verbal dyscalculia: difficulty with verbal use of mathematical terms and symbols.
- Practognistic dyscalculia: inability to recognise distinguishing features or to make comparisons of objects that vary on some dimension e.g. size.
- Lexical dyscalculia: difficulty in reading digits, symbols, or multi-digit numbers.
- Graphical dyscalculia: difficulty in writing dictated numbers or copying symbols.
- Ideognostical dyscalculia: difficulty in comprehending ideas and making mental calculations.

- Operational dyscalculia: difficulty in completing basic operation of addition, subtraction and so on, including confusion among the operation and the appropriate algorithm for each.

Dyspraxia :

Praxis, or motor planning, is a unique human function that relies on an understanding of one's own body and how it operates within and relates to the external world. This type of understanding is based on appropriate and adequate input and processing through the channels of the tactile, proprioceptive, and vestibular systems. Dyspraxia refers to dysfunction in ability to plan and to execute movement patterns of a skilled or non-habitual nature. Postural reactions which are automatic and reflexive; certain movement patterns such as creeping and walking, which are an inherent part of human development; and performance of skilled tasks, if slightly altered, present great problem to the dyspraxic child. Because dyspraxic child experiences a decreased capacity to impact on the environment, he may feel overwhelmed and powerless, failing to recognize himself as an animated being, feel inadequate, avoid competitive activities, lack imagination. The following are the characteristics of dyspraxia:

1. Difficulty in performing skills not previously mastered, where motor planning is required.
2. Sensory processing deficits, often in the tactile system, and occasionally in the vestibular and proprioceptive systems.
3. Low muscles tone, generally poorer in flexor than extensors. Flexors muscles are used primarily for phasic and skilled movements, while extensors serve tonic and postural functions.
4. Generally poor coordination, accident proneness, and disorganized movement. The child exhibits excessive concentration when approaching a new skill. Inefficiency and awkwardness of movement is usually noted. The child generally shows normal onset of developmental milestones but delay in acquisition of skills such as dressing and appropriate manipulation of toys (blocks, puzzles etc.).

Learning Strategies And Material

Learning Disabled students exhibits diversified characteristics in their deficit areas, therefore le need of different strategies for remediate them. Few of these remedial strategies can be as follows:

Strategies for listening and speaking

Listening as a skill is often not given due importance as an element of

language. Students are expected to acquire the ability to listen without any special instruction from the teacher. However, there are many students who do not acquire the skills in listening by themselves. Listening is a basic skill that can be improved through practice. One reason for poor listening could be that the students are over stimulated by so many sounds that the students fail to focus on the required information.

The following are the strategies for the developing listening skills:

1. Phonological Awareness of Language Sounds -

Pre-reading skills include the knowledge of phonemes, which are the sounds of our language. The children need to be aware of different phonemes and must understand that words are made of different individual sounds. The following activities could be used to build phonological awareness-

- Change in poem - Have children listen to and detect the slight change in the name of a familiar story or poem, such as "Baa, Baa, Purple Sheep" or "Jack and Bill went up the hill".
- Clapping Names - Ask children to clap out syllables in names and words. For example, clap "san-gi-ta" (three claps), bi-pa-sa (three claps).
- Finding Things or objects with Initial phonemes: Use real pictures or objects. Say the name of the object and ask children which picture or object begins with the same sound. For example, the initial consonant h may be presented with hen, honey, house, horse and hot.
- Take Away a Sound - Have the children say the name or a word without the initial sound. For example, say, _am (for Ram), _ar (for Car).
- Add a Sound - Say a word pair, with the second word adding a sound. For example, "mile, smile", "boy, boys".
- Rhyming Words - Ask the children to give rhyming words. For example, words that rhyme with "cat" are "bat, sat, mat".

2. Understanding Words and Building a Listening Vocabulary -

Listening requires that students acquire a listening vocabulary. Students must understand the names of things, actions, and more complex terms–

- Naming Objects - To help students learn the names of objects, use actual objects, like book, pen, and eraser.
- Verb Meanings - You could teach the meaning of verbs or "doing" words by

performing the activity.

- Pictures - Use pictures in reinforcing the vocabulary taught.

3. **Understanding Sentences -**

Sentences are more difficult to understand than words. Somi students with language difficulties need extra practice in understanding sentences.

- Simple Instructions - Give simple instructions in sentences to give the students the extra practice they need. For example, "Give me the yellow glass" or "Put the book in the bag".
- Riddles - Use riddles and let the students pick the correct word. For example, for the word "glass", you may say "I am thinking of something we use to drink water in".
- Look for the Picture - Line up a few pictures and describe one of them aloud. Ask the student to point out to the correct picture.

4. **Listening Comprehension -**

Listening comprehension is when the information is receive by hearing language rather than reading language–

- Following Directions - The students listen to directions for making something. Keep the supplies ready and ask students to follow the directions.
- Getting the Main Idea - The teacher reads a short unfamiliar story and asks the students to give an appropriate title for the story.
- Understanding Sequence of Events - The students listen to a story and are asked the pictorially to depict the sequence of the story.
- Listening for Details - The teacher can read a story aloud and ask detailed question about that. Phrase questions to ask who, what, when, where, why and how.

Handwriting

Handwriting is the most concrete of all basic academic skills. And it is also important for of the written expression. Regardless of how well organized a written passage may be, it will convey a thought adequately unless it is presented in a legible fashion. Hand writing deficits been called Dysgraphia or visual-motor integration problems. It could also be due to directionality confusion or to reduced motivation.

Strategies for teaching handwriting

The following activities are useful in teaching handwriting:

i. **Chalkboard activities**– Circles, lines, geometric shapes, letters, and numbers can be made with large, free movements using the muscles of the shoulder, arms, hands, and fingers.

ii. **Other materials for writing movement practice**– Finger painting or writing in clay or a sand tray gives the students practice in writing movements. Students use one finger or a pointed stick to practice writing shapes, forms, letters, and numbers. Small, wet sponge can be used to draw shapes on a chalkboard.

iii. **Position**– Make the students write by sitting at a table that is at the proper height. The feet should be flat on the floor and both the forearms are on the writing surface. Each student's nonprinting hand should hold the paper at the top. Have students stand and work at a chalkboard for the initial writing activities.

iv. **Paper**– For manuscript writing the paper should be placed without a slant parallel with the lower edge of the desk. For cursive writing the paper should be tilted at an angle -approximately 60 degrees from vertical - to the left for right handed students and the other way for the left-handed student. To help the students to remember the correct slants, paste a strip of tape parallel to the top of the paper at the top of the desk.

v. **Holding the pencil**–A piece of tape or a rubber band placed around the pencil can help the students hold it at the right place. If the students have difficulty in holding the pencil it can be put through a small ball. Have the students place the middle finger and thumb around the ball to practice the right grip. Large pencils, large crayons and thick sketch pens are useful in the initial stages of learning how to write. Short pencils should be avoided.

vi. **Stencils and templates**–Make card board stencils of geometric forms, letters, and numbers. Have the students trace the form with one finger, a pencil and a crayon.

vii. **Tracing**– Make heavy black figures on white paper and clip a sheet of transparent paper over the letters. Have the students trace the forms and letters. Start with diagonal lines and circles then move to horizontal line, and vertical line, geometric shape and finally letters and numbers.

viii. **Drawing lines between the widths of letters**– Have the students

practice making 'roads' between double lines in a variety of widths and shapes. Then ask the students to write letters by going between the double lines of the outline letters. Use arrows to show the direction and sequence of the lines.

ix. **Dot to dot**– Draw a complete figure and then draw an out line of the same figure by using dots. Ask the student to make the figure by connecting the dots.

x. **Tracing with reducing cues**– Write a complete letter or word and have the student trace over it. Then write the first part of the letter or word and have the students trace your part and then complete the letter or word. Finally, reduce the cue to only the upstroke and have the student write the entire word or letter.

xi. **Lined paper**– Have the students begin writing on unlined paper. Later have them use paper with wide lines to help them determine the placement of letters. Highlight the middle line of the four line notebooks so that the students know they have to place the alphabet of the middle order in the highlighted area.

xii. **Letter difficulty**– In terms of ease, cursive letters are introduced in the following order: beginning letters - m,n,t,I,u,w,r,s,l, and e; more difficult letters - x,z,y,p,j,h,b,k,f,g, and q; and combination of letters- me, be, go, it, no etc.

xiii. **Verbal cues**– Students are helped in the motor act of writing by hearing the directions of forming letters-for example, "down-up-and around". When giving this instruction, do not confuse the student with too many instructions.

xiv. **Words and sentences**– Teaching the spacing, size and slants when the child has learnt the letters and is ready to learn words.

Mathematics

Math is generally recognized as an essential curriculum area and adequate performance in this area is usually considered important for school success. Two mathematics problem areas have been identified-math calculations and math reasoning.

Strategies for Teaching Mathematics

It includes:

i. Determine the student's basic computational skills in addition, subtraction, multiplication, and division.

ii. Teach students math vocabulary.

iii. Use visuals and graphics to illustrate concepts to the students.

iv. Have students make up their own word story problems.

v. Teach money concept by using either real money or play money.

vi. Teach time by using real objects.

vii. Teach early number skills.

Classification and grouping

i. Sorting games: Give students objects that differ in only one attribute, such as colour or texture, and ask them to sort the objects into two different boxes. For example if the objects differ by colour have students put red items in one box and blue items in another.

ii. Matching and sorting: Have the students search through a collection of assorted objects to find a particular type of objects. For example, look in a box of coloured beads or blocks for a red one.

iii. Recognition of group of objects: Playing cards, magnetic board, cards with coloured disks, concrete objects (real objects)

Ordering

i. **Serial order and relationships:** When teaching the concept of ordering ask the students to tell the number that comes after 6 or before 5 or between 2 and 4. Other quantities can be arranged on other dimensions also like size, weight, intensity, colour, volume etc.

ii. **Number lines:** Number lines on the floor for students to walk on are helpful in understanding the symbols and their relationship to one another.

iii. **Arranging by size and length:** Have the students compare and contrast objects of different size, formulating concepts of smaller, bigger, taller, and shorter. Make cardboard objects, such as circles, trees, houses etc and have the students arrange the objects by size and then also teach them to estimate whether certain objects would fit into certain spaces.

iv. **One-to-one correspondence:** It is called pairing. This is the relationship in which one element of a set is paired with one, element of a second set. Pairing provides a foundation for counting. Have the students arrange a row of pegs in a pegboard to match a pre-prepared row or plan the allocation of materials to the group so that each person receives one object.

Counting

i. Activities for counting: Motor activities to help students establish the counting principle include placing a peg in a hole, clipping the cloth pin on

a line, stringing beads, clapping three times, jumping four times, and tapping table four times. Use the auditory modality to reinforce visual counting by having students listen to counts of beats with their eyes closed.

ii. Counting cups: Take a set of containers such as cups, and designate each with numeral. Have the students fill each container with the designated number of items, using objects such as bottle caps, chips, buttons, screws, or washers.

iii. Concept of an empty set (zero) should be taught in a concrete way by giving number of examples.

Recognition of numbers

Visual recognition of numbers: This involves recognizing both printed numbers (6, 9, 7) and the words expressing these numbers (six, nine etc). They must also learn to integrate the written form with spoken symbols. Colour cues can also be used to help them recognize the symbols. For example make the top of the number 3 green and the bottom of the number 3 red.

Teach computation skills

Basic computation skills: Many problems in mathematics are due to student's inability to do basic computation skills (addition, subtraction, multiplication, division, fractions, percentage, decimals) :

i. Addition– Teach the meaning of the symbol + (plus or "put together") and = (equals or "the same as") and explain that addition means part plus part equals whole". Begin by using concrete objects, then use cards with sets that represent numbers, and finally use the number sentence with the numbers alone: 3+2 = (). From this the students can also learn that 2+3 =(); () +2 = 5; and 3+ () = 5 . Teaching addition usL.fa sums between 10 and 20 is more difficult. There are several approaches. It is easier to start with doubles, such as 8+8 =16. Then ask what 9+8 equals? Is it more than 16?

ii. Subtraction– An important new symbol is - (minus or take away). Use concrete objects to teach the concept of subtraction as in addition. Number line is also useful in subtraction.

iii. Multiplication– The children need to know that multiplication is repeated addition. One way to explain multiplication is the multiplication sentence. (How much are 3 sets of 21 The students can find the total either by counting objects or by adding equal addends. The concept of reversals can also be introduced. The sentence 3x5 = () does not change in the form 5x3 = (--).

iv. Division– This skill is considered to be the most difficult to learn and teach. To teach division sets can be used: 6 % 3 = (). Draw a set of 6 and enclose three equal

sets. The missing factor is seen as 2: The questions to be asked are -how many subsets are there and how many objects are there in each set.

v. **Arrangements**– Give the students the number 1,2,3 and ask them in how many ways they can be arranged: 1-2-3; 1-3-2; 2-1-3; 2-3-1; 3-1-2; 3-2-1 (3'2'1=6). Another arrangement puzzle is: If four children are sitting around a square table, in how many ways can they arrange themselves? (4'3'2'1=24).

- **Puzzle cards of combination**– Make cardboard cards on which problems of addition, subtraction, multiplication, and division are worked. Cut each card in two so that the problem is on one part and the answer is on the other. Each must be cut uniquely so that when the students try to assemble the puzzle, only the correct answer will fit.
- **Playing cards**– An ordinary deck of cards becomes a versatile tool for teaching number concepts. We can teach sequential order by numbers, matching sets of numbers, adding and subtracting with individual cards, and recognizing the number in a set.
- **Number facts**– Teaching number facts -+1; -1; '1; '0; +0; - 0; '%' and 0, addition of same numbers and subtraction of same numbers.

Teaching word problems :

- Use word problems that are of interest to the students and with in their experience.
- Pose the problem orally also so that children with reading problems can be helped.
- Use concrete objects, drawings, graphs, to clarify the problem. Have the students act out the problem.
- Have students substitute smaller and easier numbers for problems with larger or complex numbers so that they can understand the problem and verify the solutions easily.
- Have the students restate the problem in their own words. This will help the student to structure the problem for him or herself and also show whether they understand the problem.

Steps in solving the word problem–

- Have the students read or hear the problem and relate the setting of the problem.
- Have them decide what is to be discovered-what is the problem to be

solved.

- Ask the students to read the problem aloud and then list the relevant and irrelevant data.
- Help the students analyze the relationship among the data and must decide which computational process to be used...Key words like total, or in all, which suggest addition and left, or remains, which suggest subtraction, should be known.

Teaching Learning Materials

The children with learning disabilities need concrete teaching learning materials basically prepared by the teacher depending on the individual needs of the learner. The aim is to use teaching learning material to teach children with learning disabilities so that students can learn concept more effectively. Some of the teaching learning materials for learning disabilities are: Self learning cards, Picture cards, Magazines, Newspapers, Calendars, Posters, Puzzles, Riddles, Community made dolls, Toys, Puppets, Models, Raised letters, Numbers, Concrete objects (beads, buttons), Colours, Word building, Word concepts, Flash cards, Stencils, Picture arrangement cards, Masks, Banners, Fixing blocks, Play-way kit, Maps, Globes, Worksheets, Workbooks, A pencil grip, Education games and toys. Thus, for creating a meaningful learning opportunity it is not only imperative to have effective teaching learning materials, but also to develop an activity around the material keeping in mind the total learning process.

Conclusion

It is an alarming thought that in a school of 1000 children about 100 could have a learning disorder! School is the place where the children are identified with learning ability, emotional stability and social amicability through curricular, co-curricular and extracurricular activities. The teacher is a good assessor, guide and catalyst to kindle the curiosity and creativity of the child. Teacher can find out the challenges of the individual and give remedial measures. Modern teachers, who wish to succeed in work, should be a specialist who understands children, how they grow, develop, learn and adjust. He should be a diagnostician who can discover special difficulties of children and at the same time possess the requisite skill for carrying forward the necessary remedial work (Agrawal, 2012). Teacher Education programmes should educate and train the teachers for common as well as special/disabled learners to supplement teaching in the problem areas of the special needs learners as well as to cover different field of disabilities or various types or categories of disabilities to meet their requirements (Liancbhawni, 2016).

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