Rights & Responsibilities of Learners with Disabilities

- ➤ Have the **right** to participate in educational programs without discrimination
- ➤ Have the **right** to reasonable accommodations in courses and examinations
- ➤ Have the **responsibility** to identify themselves as having a disability and request specific accommodations in a timely fashion.
- ➤ Have the **responsibility** to provide documentation concerning their disabilities and the need for accommodations

(National Adult Literacy & Learning Disabilities Center)

Learning Disabilities (LD)

Definitions for "Learning Disabilities" are influenced by the group creating it. This one is from was adopted by the national Joint Committee on Learning Disabilities from the Learning Disabilities Association of America.

"Learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunction, and may occur across the life span. Problems in self-regulatory behaviors, social perception, and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions (for example, sensory impairment, mental retardation, serious emotional disturbance), or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction), they are not the result of those conditions or influences."

A student with LD learns differently and must learn coping strategies. These strategies will help a student compensate for their methods of learning. Since they see, feel or perceive the world differently, the student may often feel left out, misunderstood, or rejected. The student may appear to be frustrated, depressed and emotional, or even angry at themselves and their perceived weaknesses. The following is a booklet developed to help teachers and families understand what it is like to have a learning disability.

WHAT IS IT LIKE TO HAVE A LEARNING DISABILITY?
Pamella Bellermann
Learning Disability Specialist
Chairman, Maniet Bellerman Foundation, Inc.

Imagine how confusing it would be if everything you read looked like this:

IMAGINEHOWCONFUSINGITWOULDBEIFEVERYTHINGYOU READLOOKSLIKETHIS?

Or if the words begin and end in places that don't make sense to you:

ORI FTH EWOR DSBE GINA NDEN DI NPLAC ESTH ATD ON'TM AKE S ENSET OY OU?

What if the letters were reversed or out of order?

TAHW FI EHT SRETTEL EREW DESREVER OR OUT FO ODRER?

Now imagine being called on to read aloud the following:

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w o     e     o          ou        pa
    ds    m     e ap        n  he    g
    r   se    t  l    ar    d  t      e.
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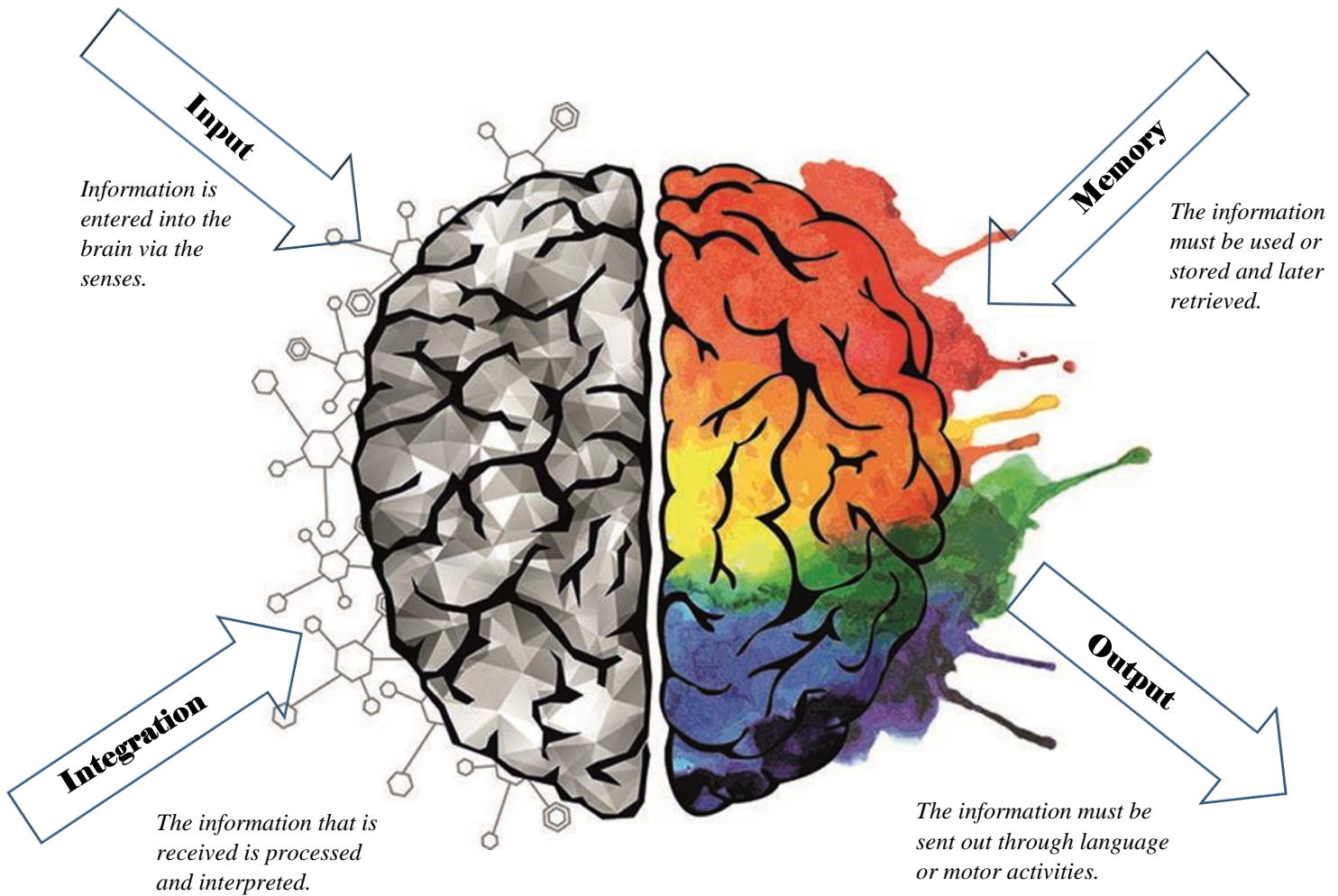
What if on top of that, people called you lazy, dumb or retarded and you know you're not? These are just a few of the difficulties students with learning disabilities experience every day. These problems make learning difficult, but not impossible! It is important to remember that students with learning disabilities are more like their peers than unlike them. What is different is how they learn. Too often students with learning disabilities are accused of not trying hard enough or not paying attention when, in reality, they are doing the very best they can.

Students with learning disabilities have average or above average intelligence and many are gifted as well. That is difficult to understand. Too often we equate reading and writing ability with intelligence. Students with learning disabilities can have deficits in one or more areas, but might excel in others. No assumptions can be made about a student with learning disabilities. It is important to focus on their strengths and not their disability. Students with learning disabilities have the same basic needs that all people have – acceptance, friendships, feeling worthwhile, and success. The need for success is perhaps greater for students with learning disabilities because they most likely have experienced a great deal of failure in the past.

The first thing in helping the student with LD is to understand what a learning disability is and how it relates to the learning process. Four steps are required for learning to take place:

Input

Information is entered into the brain via the senses.

Memory

The information must be used or stored and later retrieved.

Integration

The information that is received is processed and interpreted.

Output

The information must be sent out through language or motor activities.

A learning disability is a "short-circuit" or dysfunction in one or several of the channels to the brain. A dysfunction in any step can interfere with subsequent steps in the learning process and can result in a discrepancy between the student's potential ability and his or her academic performance. Any learning task involves more than one process and any learning disability can involve more than one area of dysfunction. For example: a student's visual-perceptual disabilities are likely to result in fine/motor and writing difficulties, as well as difficulties with social perceptions.

Disabilities at the Input Stage

During the INPUT stage, a learning disability exists when information from the environment is "misperceived." These misperceptions do not pertain to visual or auditory acuity. Thus, a student with perfect vision or hearing may still have a "visual or auditory perceptual disability." It is not what you see, but how you perceive it.

Perceptual disabilities often leave the student confused, anxious and/or frustrated. Self-doubts set in when one cannot trust one's perceptions. The student whose perceptions are inaccurate, inconsistent, and misleading lives in an unstable and unpredictable world. A tremendous amount of conscious effort is required to override

distorted visual and auditory information. And it takes a great deal of persistence and intelligence to overcome them.

Visual Perceptual Disabilities

A student with a *Visual Perceptual Disability* has difficulty organizing the position and shape of what is seen. The student may:

➢ reverse or rotate letters, numbers, words and even sentences when he/she is reading, copying or writing (E is seen as 3; w as m; "dog" as "god"; "+" sign as a times sign)

➢ have difficulty with figure-ground (focusing on a significant figure instead of the rest of the background), causing him/her to be unable to track left to right, line to line, or to skip words, read the same line twice, see two words as one, one word as two, or skip lines. When doing a math sheet, the student might put the answer under the wrong problem or add part of another problem to the one he/she is doing – or add in the number of the problem itself.

➢ misjudge distance, depth, or position in place, bumping into things, falling off his/her chair, or knocking things over when reaching for them. These students are often labeled "clumsy" or uncoordinated when the real problem is one of visual-perception.

Ways to help students with visual perceptual disabilities:

1. Encourage the student to use a bookstand to hold books and papers upright to reduce glare on the page when reading and copying.
2. Give the student extra time to complete visual-perceptual activities. They need time to figure out and understand what they are seeing.
3. Seat the student in the front row near the center of the board.
4. When writing on the board, help the student keep place by writing each line in a different color.
5. Avoid tasks involving copying from the chalkboard or from books.
6. When the class is taking notes from the board or during class, have a classmate who has neat handwriting put a piece of carbon paper under his/her sheet to make a copy for the student with LD or give a copy of your notes to him/her. If homework assignments are written on the blackboard for the class to copy, check to make sure that the student with the LD has copied them accurately. Read aloud what you have written.
7. Reduce home/class work requirements by allowing the student to do only the even or odd problems rather than the whole page.
8. Allow the student to tape record class lectures.
9. Photocopy pages of non-consumable books so the student doesn't have to copy writing or math problems.
10. Use large print books and workbooks or enlarge on a copier.
11. Teach the student to highlight important information in books.
12. Allow the student to use a note card, ruler, or finger under lines of print when reading or copying. Use a note card to block out the rest of the page.
13. On worksheets, put a heavy line around the pertinent items to help the student attend to reversal tendencies.
14. For new words, use color cues like green letters at the beginning and red ones at the end.
15. Present reading materials that are clear, legible and on uncrowded pages. Blurred copies are very hard for the student to read.
16. Provide kinesthetic exercises such as writing on the chalkboard, walking exercises, finger-painting, and body in space.
17. Provide tactile experiences such as sandpaper letter, form letters from playdough or pipe cleaners, or outline letters or words with glue, let dry, and then "feel" the letter.
18. Mark the paper to show the student where to start and stop.
19. Mark the student's desk with "left" and "right" markers.

20. These students will remember more of what they HEAR than what they see. Present new material and give directions orally.
21. Mouthing the words or quietly whispering will make a visual task an auditory one as well.
22. When the student is writing something new, encourage him/her to verbalize what is being written.
23. Use tape recorder, language master and record player activities for the student with poor reading skills.

Auditory Perceptual Disabilities

Auditory perceptual disabilities are those where a student has:
➢ difficulty distinguishing the subtle differences in sounds, confusing words that sound alike. The student might answer your question about how he or she is by giving you his/her age.

➢ trouble picking out sounds from the rest of the background (auditory figure background). Understanding and following directions, particularly those with several steps, is a strenuous task for children with auditory perceptual difficulties. It is often thought that they are not paying attention or listening – actually, they are paying attention to too much!

➢ trouble being able to process information as fast as most people can (auditory lag). They might ask you to repeat questions or directions over and over again. They might stall for more time to think about and respond to what they are being asked, or they might be hearing only part of what is said.

Ways to help students with auditory perceptual disabilities:

1. Give them extra time to think about a problem or answer a question before requiring a verbal response from them.
2. SHOW them how to do something rather than just telling them.
3. If visual skills are strong, use sight word, "look or say," and similar techniques to teach reading. Approaches that rely entirely on phonics are confusing.
4. Do not give directions while the student is in the midst of performing a task. Wait until you have his/her full attention.
5. Have the student repeat directions given orally AND have him/her demonstrate that he/she knows what to do. He/she might not have understood or might have misinterpreted.
6. Provide lots of visual reinforcements (pictures, maps, charts, graphs). They help keep the student's attention.
7. When teaching a new concept, illustrate the concept when giving a verbal explanation.
8. When a student seems confused, have him/her verbalize what he/she misheard or misunderstood.
9. Provide written outlines to follow during oral presentations.
10. Directions need to be visual – written on a board or on paper.
11. When giving homework assignments orally, check to make sure the student has written them correctly. It is helpful to write them on the board for the students to copy as well as hear.

Students with a perceptual disability can also misperceive social cues and body language. They might misinterpret gestures, facial expressions, and tone of voice or they might not notice them at all. These are the students who go too far and don't know when to stop at home and in the classroom because they do not pick up that someone is annoyed or frustrated with them.

Social Perceptual Disabilities

Students with *social perceptual disabilities* are often shunned by their peers because of their inappropriate behavior. They have trouble making and keeping friends, although they desperately want and need others to like and accept them. Without friends, the student feels isolated and many times withdraws from social situations. Social perceptual disabilities are the most devastating type of learning disability a person can have.

Ways to help students with auditory perceptual disabilities:

1. Rather than assume the student will just "pick up" appropriate social behaviors, teach them to the student.
2. Demonstrate rather than just talk about appropriate ways to act.
3. Role-play different social situations in which the student might find him/herself and discuss possible consequences.
4. Teach students to recognize facial expressions, body language and moods.
5. Teach students "teacher pleasing behavior."
6. Analyze the source of social problems by observing the student in various situations to see where he/she is having difficulty and why.
7. Find an activity that promotes social confidence, such as drama, reading to younger children, or having the student teach a skill he/she excels in.

Disabilities at the Integration Stage

The next step in the learning process is to put together or process the information that has come in through the senses, i.e., INTEGRATION. The information that has been taken in has to be understood before it can be remembered and be useful to the student. There are at least three parts to this step.

Sequencing
- organizing information into an order that makes sense
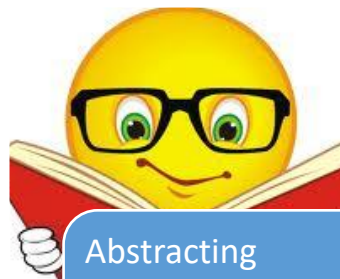
Abstracting
- inferring meaning from the words or symbols

Organization
- information must be integrated with new incoming information and it must also be related to previously learned inforamtion

Those students with a *sequencing disability* might have trouble retelling a story in order or might spell words with all the correct letters but in the wrong order. They may be able to memorize the days of the week or numbers in correct order but be unable to tell you what comes after Tuesday or 19, without starting from the beginning. They also have a poor concept of time.

When students are unable to understand jokes and humor based on a play of words, they are exhibiting an *abstraction disability*. In some ways, they are thought so be somewhat narrow minded with their understanding of words, particularly those with more than one meaning, as well as concepts.

Many students with learning disabilities have *organizational disabilities*. These students are able to take information, such as a series of facts, but are unable to answer questions using the facts. They are unable to pull all the newly learned information and previous information together into a whole concept. The signs of an organizational disability are clearly evident when one observes the student. His/her desk, notebook, reports, bedroom, etc., are in disarray. These students leave their homework at home, or work needed at home at school. Time management is a major issue with these students.

*Ways to help students with integration disabilities:*

1. Help the student organize his work area, providing a "place for everything."
2. Provide the student with an assignment book/folder and calendar to keep track of work.
3. Have peers check with each other to see that all assignments are recorded.
4. At the end of the class, have the student check to make sure he/she has everything needed for homework. Make sure the student understands what to do on homework assignments. Have him/her demonstrate what to do.
5. Teach the student to be responsible for keeping his notebook/folder organized, assignments recorded, and homework turned in by graphing, charting, or rewarding when he/she is successful.
6. A binder with dividers and pockets for each class/subject will help keep the student organized. Keep loose sheets in the pockets. • Provide the student with a paper punch and teach the student to punch holes in loose sheets immediately and put them in the proper place in his/her notebook.
7. Help the student get started doing tasks when giving an independent assignment. Teach him/her time management.
8. When assigning long-term independent tasks such as book reports or term papers, provide a sequential list of tasks for the student to follow. Help the student outline the steps needed to complete the task.
9. Check periodically on the status of long-term assignments to see if the student is following the plan.
10. Keep an extra folder of handouts so a student can easily replace lost ones.
11. Daily schedules at home and school (work) for the student are useful.
12. Use concrete and manipulative materials to demonstrate concepts. Allow the student to use fingers and other aids that are useful.
13. Keep him/her focused on tasks by actively involving the student.
14. Explain words and phrases that have multiple or subtle meanings, such as idioms.
15. Be sure that presentations are organized in sequential order.
16. Give instructions in small segments and reward the student for each completed step. Gradually increase the length and complexity.
17. Use hands-on activities.
18. Speak clearly, distinctly, and try to keep the vocabulary simple.
19. Try to keep eye contact with the student.
20. If students have trouble understanding information, show them how to draw pictures or diagrams to help them visualize it. This also gives the information order.
21. Teach the students strategies to organize information according to relationships.
22. In problem-solving situations, teach the student to talk through steps. It will help him/her think clearly.
23. A confused student often doesn't know what part of a task is confusing. Help the student learn how to determine those parts and be able to be specific when asking for help. It may be just one word that is confusing and not the whole task.

Disabilities at the Memory Stage

The next step in the learning process is to take the information that has been received and integrated and store it for later use. This is called memory and there are two types.

Short-term (ST) Memory
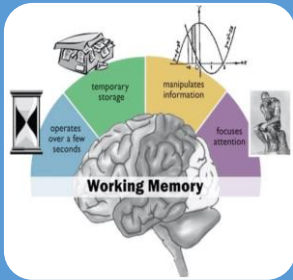
- defined as anywhere from a few minutes to 24 hours & involves retaining information for a short time while attending and concentrating on it.
- Students with a ST memory disability may need 10-15 repetitions to retain what the average student retains after just a few repetitions.

Long-term (LT) Memory

- can be anywhere from a few minutes to over 24 hours.
- LT memory is generally not difficult for learning disabled students. Usually, if they have learned something they can retain it. Most likely the memory disability is a short one.

Short-term memory disabilities can occur with information received both visually and/or orally (relating to the ear). A student may understand his/her assignments until it is time to do them at home. Then he/she can't remember how to do them. These students also practice and practice for a test at home and get everything right, only to flunk the test the next day. Students with memory problems are often frustrated and tempted to give up.

Ways to help students with memory disabilities:

1. You may need to repeat directions, step by step, and then have the student repeat them and demonstrate he/she knows what to do.
2. Do not give directions while the student is doing something else. Wait until you have the student's full attention.
3. Review materials previously learned as often as possible until responses become automatic. If classes are recorded, the student can listen to them several times.
4. The student will need to "over learn" material to remember it. Provide many opportunities for practice.
5. Don't assume a student will know tomorrow what he/she knows today. Inconsistency is a trait of students with memory problems.
6. Don't assume because a student has trouble learning something today that he/she will be unable to learn it tomorrow.
7. Teach the student memory strategies, like mnemonics or acronyms, to remember information.
8. Teach the student how to use visualization and imaging techniques to recall information.
9. Provide charts showing math facts or a calculator which the student can use when teaching a new math process to avoid interfering with new learning.
10. Teach the student how to make notes and lists to help remember information.
11. Avoid rote memory instruction in any content area.

Disabilities at the Output Stage

This final step in the learning process is the proof that we have learned something: output. It involves being able to express in some way what has been learned, information is expressed either through language – by means of words – or through writing, drawing, gesturing – motor output.

Language Disabilities

There are three forms of language output:

1. ___Spontaneous___: One initiates whatever is said and has the opportunity to select the subject, organizes one's thoughts, and choose the correct words before saying them.
2. ___Demand___: The student is asked to respond to a question or is required to communicate. It is necessary to simultaneously organize, find the right words, and answer appropriately in a brief amount of time.
3. ___Social___: Social language skills are needed when carrying on a conversation with peers and others, when asking for help, or getting needs met.

Language is perhaps the most complex and difficult of all learning tasks. Most people with learning disabilities have problems with "demand language." These are the people who can talk, with a great deal of intelligence and expression, about a wide range of topics and then freeze when asked a question. People with "demand language" disability will often mumble, ask you to repeat questions to gain time, or not answer at all. If forced to answer, the response may be so confusing and jumbled that you are not able to understand it.

Ways to help students with language disabilities:

1. Role-play situations which involve social conversation and demand language.
2. Give the person extra time to respond to questions, particularly during tests.
3. Increase the person's self-confidence by calling on him/her when you know he/she knows an answer. Ask non-threatening questions which require only a short answer or opinion.
4. Have the person repeat questions to himself/herself before responding.
5. Seat the student at the front of the room to reduce embarrassment when he/she speaks.
6. Prepare the student by saying his/her name before answering questions.
7. If the student stammers or pauses, assist him/her with clues.
8. Reduce anxiety by providing opportunities for small group discussion and participation.
9. Give the student time to rehearse oral presentations.

Motor Disabilities

Motor disabilities involve coordination of the large muscles (gross motor) and small muscles (fine motor). Students with gross motor difficulties may appear to be clumsy. They fall, bump into things, and have trouble with athletic activities.

Usually more complex (and more frustrating) are fine motor disabilities. These show up when the student begins to write and has to get the muscles in the dominant hand to work together in a cooperative and coordinated way. Students with a written language disability have slow and poor handwriting. The writing task requires a tremendous amount of energy and stamina. These are the students with the awkward pencil grip and white knuckles.

Quite often the student with visual-perceptual problems has motor as well – referred to as a *Visual Motor Disability*. If the brain receives information that has been misperceived visually, then incorrectly processes and records it, it may misinform the muscles that require eye-hand coordination.

Written language tasks are made even more difficult because they require using correct grammar, punctuation, spelling, and vocabulary all at the same time. Learning disabled students who can tell creative, involved, and detailed stories are often unable to get any of their thoughts onto paper. The words are in the wrong order, usually are misspelled, or completely omitted or unintelligible. They can usually only manage to write a few words or sentences. Writing definitely stifles these creative students. Free them of the burden of writing by allowing them to dictate, tape record or use a word processor to get their thoughts down on paper. They'll be forever grateful.

Ways to help students with fine motor and writing difficulties:
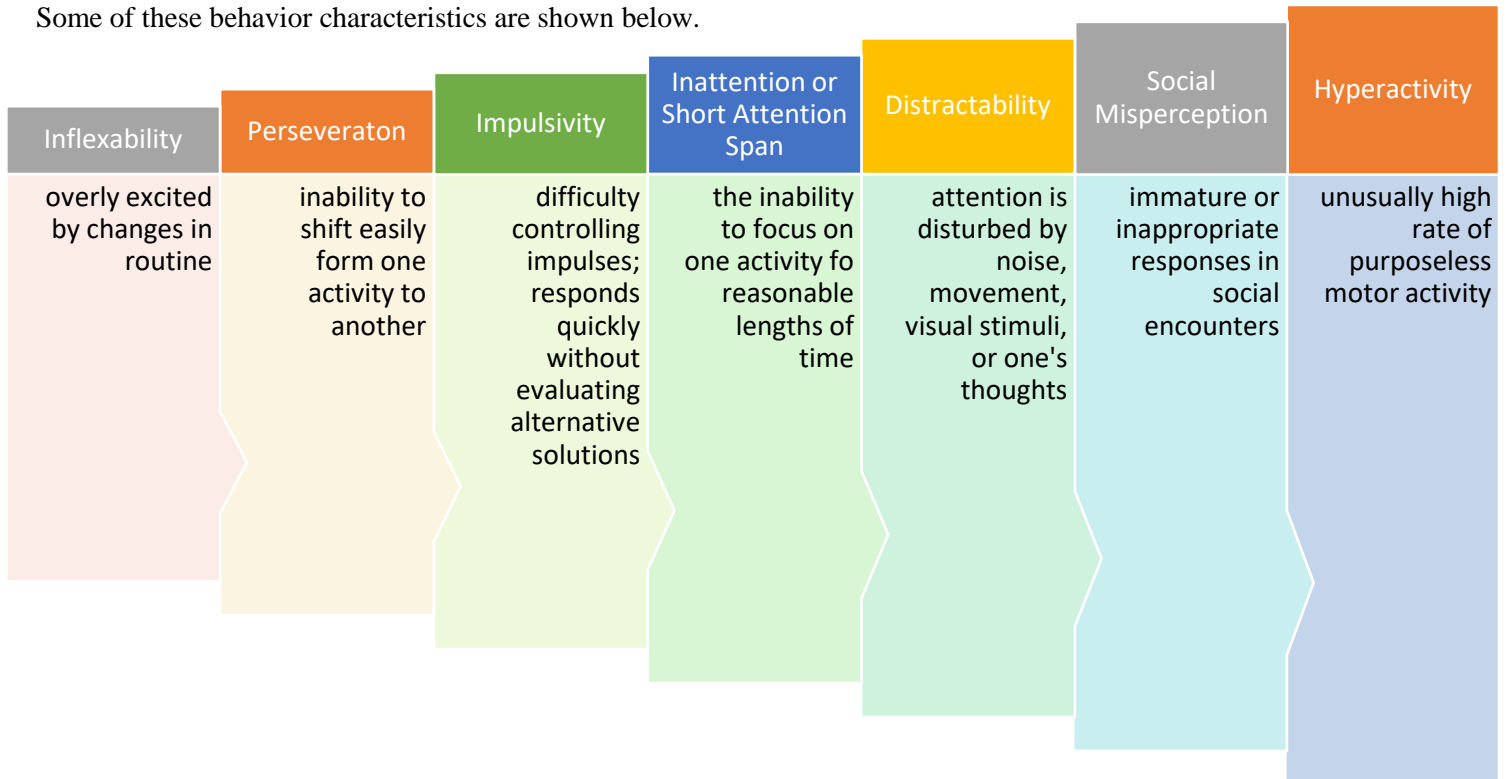
1. Avoid assigning long copying or written assignments. Allow the student to dictate longer reports to someone else who can write for him/her or tape record them.
2. Use manipulative activities to increase fine motor control.
3. Chalk/white board practice should precede paper and pencil writing.
4. Experiment with different writing tools to find the one that makes writing easier for the student.
5. Pencil grips are helpful for many students.
6. Proper posture is important for good writing. Make sure the height of the student's chair and table are appropriate for him/her.
7. A piece of tape can be placed on the desk to help position paper for cursive writing.
8. Try cursive writing if the student has trouble printing.
9. If printing is preferred, teach the methods that do not require the student to lift his/her pencil off the paper while forming the letters.
10. Avoid the use of paper with faint lines. White paper with dark blue or black lines is the best. Paper with raised lines might also be helpful.
11. Have the student write on every other line. It's easier for him/her to read and make corrections.
12. Be aware that students sometimes write illegibly purposely because they cannot spell words.
13. Students who use capital letters in the middle of a word often can't remember what direction the lowercase letters go (i.e., r, n, p, b, d). It's usually easier to remember how to make capital letters.
14. Sometimes it's easier for the student to write on paper with narrower lines rather than wide-lined paper.
15. Crossword puzzles will develop language and spelling skills as well as provide an opportunity to practice writing in small places.
16. Provide letter and number charts to help students remember how to form symbols when writing.
17. Allow the student to trace if he/she has trouble drawing.
18. Provide well-spaced and uncluttered worksheets.
19. Have students orally describe their movements when forming letters that give them difficulty.
20. Teach the student to use a word processor or typewriter. The computer is a blessing for revisions and a lot of writing.
21. Disregard misspellings when grading unless it is a spelling task.
22. Provide spelling aids for students to use.
23. Encourage students to keep a file of frequently misspelled words for reference when writing.
24. Underline all misspelled words and give the student a chance to correct them before grading.
25. Encourage students to proofread written work by reading it aloud. They often pick up on their own mistakes.
26. Provide a checklist to use with written assignments, reminding the student to use punctuation, capital letters, and check spelling.
27. Accept correct answers on tests or worksheets in any written form, such as lists or phrases.
28. Provide an opportunity for the student to take oral tests or quizzes, or provide a reader for the student. Allow the student to dictate answers to a writer.
29. For math work, have the student use graph paper to work problems or turn lines paper to the side.
30. Remind the student that math problems are worked right to left, unlike reading, which is left to right.

Behavioral Characteristics of LD Students

Learning is a complex process. A learning disability can occur at any or several of the steps. If what you are seeing or hearing is confusing or distorted, and you cannot trust your brain to understand or store the information you need and then be able to express it, then it's little wonder that you might begin to doubt yourself, or become frustrated! Many of the behavioral characteristics exhibited by learning disabled students that interfere with their ability to learn are the result of the confusion and insecurity they feel because of their difficulties.

Some of these behavior characteristics are shown below.

Inflexability	Perseveraton	Impulsivity	Inattention or Short Attention Span	Distractability	Social Misperception	Hyperactivity
overly excited by changes in routine	inability to shift easily form one activity to another	difficulty controlling impulses; responds quickly without evaluating alternative solutions	the inability to focus on one activity fo reasonable lengths of time	attention is disturbed by noise, movement, visual stimuli, or one's thoughts	immature or inappropriate responses in social encounters	unusually high rate of purposeless motor activity

Ways to help students with behavioral disabilities:

1. Help the student develop confidence. Ensure success by focusing on the student's strengths rather than weaknesses. Praise good behavior, and try to overlook the bad.
2. Provide lots of opportunities for success when the student is performing before his peers.
3. Include the student in all activities and projects. Modify when needed.
4. Try to provide immediate reinforcement and feedback for small accomplishments.
5. Be consistent with directions, rules, discipline, and organization.
6. Provide the student with a schedule of the class routine and prepare him ahead of time for changes.
7. Dispense encouragement and praise freely but fairly – help students correct errors and then reward them.
8. Discover the student's strengths and areas of special interests and capitalize on them.
9. Include students in all discussions about them and allow them to give input and be part of the decision-making process.
10. Use a timer to the student structure his/her time.
11. Position the student where there is a minimum of distraction.
12. Help the student organize his/her work area so that it is not distracting.
13. Keep the student actively involved to keep his/her attention.
14. Setting limits for the student. Tell him/her specifically what you want.
15. Use computers help keep the student's attention.
16. Keep directions clear and simple, and make sure to have the student's attention and eye contact.
17. Encourage the student to verbalize any problems or frustration he/she is having.
18. Help him/her develop the survival skills needed in college and/or the workplace.

EFFECTIVE INSTRUCTIONS FOR ADULTS WITH LEARNING DISABILITIES
(Used with permission of)
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The focus of this monograph is teaching, that is, what you can do to help adults, especially those with learning disabilities (LD), learn important literacy skills. A number, not all, of the principles of effective instruction used with persons with learning disabilities are presented here. These principles can be applied across a wide range of literacy skills including reading, writing, spelling, math, studying for tests, and completing job applications, as well as to more global cognitive skills such as problem-solving.

Principle 1: Teach Important Skills

What is an important skill? Who decides that a skill is important? Sometimes adults may come to class wanting to learn specific things for specific reasons. For example, a person may request that instruction focus on understanding written material related to a specific job. In such cases, students themselves should have a strong voice regarding what skills should be taught. On other occasions, students may come to class with less specific requests, such as "I want to be a better reader or writer." In this situation, the instructor has more responsibility for deciding the focus of intervention, i.e., which skills to teach. This decision may be difficult because many skills can be taught within any academic area.

Deciding which skills are critical to teach is important because of time factors. While a student in public school may have up to 10 hours a week of reading instruction, this is often not the case in adult literacy programs, where as little as one hour per week may be all that is available. Also, adults with learning disabilities often learn at a slower rate, making time an even more precious commodity. Because of the time factor, only those skills that have the most functional impact across many areas of the adult's life should be taught.

Principle 2: Teach Less Better

This principle is related to Principle 1 in that it also involves effective use of time and decisions regarding what to teach. Because there is so much to teach and so little time in which to do it, the instructor may be tempted to try to teach as many skills as possible. Frequently, what happens in this situation is that no skill is learned well. Instead, it is better to teach fewer (and, of course, important) skills but to teach them so that each one is mastered completely. Individuals with LD often need direct, explicit, and intensive instruction along with numerous practice attempts over time in order to truly master a skill or retain information to an automatic level (Deshler & Schumaker, 1988; Englert, 1983; Gersten, Woodward, & Darch, 1986; Tarver, 1996). Thus, time is better spent providing sound instruction on a few vital skills than providing cursory, limited instruction on a broad range of skills.

Principle 3: Teach Explicitly

There are various philosophies regarding how best to teach literacy skills. For example, some educators suggest that students be allowed to "discover" or "create" their own knowledge while teachers use indirect methods, functioning solely as a guide or facilitator (Poplin, Wiest, & Thorsson, 1996). Although this may work with motivated learners who have previously mastered basic literacy skills, or with those who learn incidentally or observationally, this approach does not work well with students with LD. Research has demonstrated that individuals with LD acquire literacy skills more efficiently (better and faster) when the teacher takes an active, direct, and explicit approach to teaching basic literacy skills

(Bulgren & Lenz, 1996; Pressley & Rankin, 1994; Stahl & Miller, 1989). As noted earlier, when instruction is being designed, it is desirable for adult learners to have a "voice" in what they learn as well as to give their perspective on how they best learn. However, selecting important skills and teaching them explicitly generally is the most effective and efficient approach. Again, given the constraints in instructional time, explicit instruction is the method of choice (for specifics about how to teach explicitly, see Principles 5 through 13).

Principle 4: Teach Contextually

Providing a context for learning and for practicing literacy skills makes the skills more meaningful and useful and allows learners to see how the skills can be applied to "real life." When teaching basic skills such as decoding, vocabulary, writing simple sentences, spelling conventions, and so on, it is important to teach the skills in some context rather than in isolations. For example, learning specific phonics skills or rules is important for beginning or emergent readers, but students should be allowed to practice these skills in actual connected text (e.g., stories, literature) versus practicing them only in isolation (e.g., word lists). Or if writing conventions (e.g., punctuation, grammar) are being taught, students should practice them in the context of their own writing, such as personal notes to friends or business letters, as opposed to completing, for example, worksheets in which they add correct punctuation to already provided sentences (Adams, 1990; Ellis, 1996).

Principle 5: Explain What is to Be Learned & Why It Is Important

It is useful to start a lesson or an instructional session with a statement of what is to be learned that day, the relevance of the skill, and where and when it can be used. A statement of the learning goal provides learners a clear understanding of what is expected and prompts them to think about prior knowledge and experiences related to the content being taught that day. It is particularly important for adults with learning difficulties to have a clear idea of the purpose of instruction from the very beginning (Lenz, Alley, & Schumaker, 1987; Roehler & Duffy, 1984).

The explanation of what is to be learned should be brief and to the point, the shorter the better. For example, the instructor might say something like, "Today you are going to begin learning about how to proofread your writing, that is, things you can do to make your writing more clear and error-free." Once learners know what they are going to learn, the instructor should discuss why it is important and under what conditions they can use the skill/information. It is important to involve adults in this discussion. To do so, questions can be posed, such as, "Can you tell me why it is important to be able to go over written work for the purpose of reducing errors?"

Also, the instructor should ask questions related to the circumstances under which the knowledge or skill can be used (e.g." When could you use proofreading?"). Statements and questions about what is to be learned and its relevance will "set the stage" for actual instruction. As a final note, if it is difficult to generate meaningful relevance statements and/or examples of where a given skill can be used, the instructor may wish to reconsider the importance of teaching that skill. If no one can generate a compelling rationale for learning a skill, it may be prudent to identify a more relevant skill.

Principle 6: Check the Old Before Teaching the New

Individuals with LD often have problems retaining information. Therefore, it is a good idea to provide a check of prerequisite skills prior to beginning instruction on a new skill. Verifying retention of previously learned skills related to the new skill being taught is important. For example, when beginning a session on how to identify main ideas in a textbook, the instructor may wish to check that the students remember pertinent vocabulary such as "topic sentence" or "main idea."

To verify whether students remember or can still perform a prerequisite skill, the instructor simply asks them to demonstrate (e.g., ask them to respond to the questions, "What is a 'topic sentence' and how do you identify it?"). Teachers often begin a review by reteaching or lecturing about previously covered material without checking whether students have retained the information. This is an inefficient use of time. Re-teaching should occur only if students cannot

perform the prerequisite or related skill; otherwise, re-teaching is unnecessary. Instructors should remember to ask questions that require students to demonstrate competence in the skill. Questions that can be answered with a "yes" or "no" (e.g., "We have been covering the first three steps of the reading comprehension strategy; does everybody remember what they are?") will indicate little about whether information is understood or mastered. The only way to verify if something is known and remembered is to request that learners perform the skill and then check whether they do it correctly (e.g., "Tell me what the first three steps of the reading strategy are," or "Use the first three steps of the reading strategy on this passage.").

Principle #7: Model What is to Be Learned

Modeling the skill to be learned is crucial for adults with LD (Englert, 1984; Rivera & Smith, 1988; Smith & Lovitt, 1975). Too often, teachers describe the new skill only once or twice and then require independent practice. This may be sufficient for some learners (e.g., bright students who know a lot about the topic to begin with) but is not sufficient for most. Modeling is made up of two teacher behaviors: physically performing the skill, and verbally describing both what is being done and the covert thinking and decision-making that occur when the skill is being performed. For example, when teaching an error-monitoring strategy, the instructor would actually perform the procedure on a sample of written work (on the board or a transparency) while explaining what he/she is doing and why (versus just talking/lecturing). When modeling the first couple of times (a skill/procedure should always be modeled at least twice), the instructor should perform and talk about the skill/procedure slowly and in an exaggerated fashion.

After modeling the skill one or two times, the instructor should involve adults in modeling the activity/skill. This is done for two reasons: first it gets them involved in the learning process by requiring them to make some sort of response rather than just sitting there; and second, it provides the instructor with valuable information about how well they have understood the information being presented/ demonstrated. For example, after modeling several steps of an error-monitoring strategy, the instructor can involve students in the model via questioning techniques. The instructor may say, "You have watched and listened to me while I have demonstrated the first several steps or the error-monitoring strategy. Now I want you to help me go through it. What should I do first? Why should I do this first? When I perform the second step, what should I do?" And so on. Having them "help" perform the strategy will solidify their understanding of the strategy as well as inform the teacher about the level of their understanding. Once it appears that they have begun to acquire and understand the modeled skill, it is time for practice.

Principle #8: Use Promoted Practices

After describing and/or demonstrating new content, teachers often have students practice on their own. This can be a serious instructional mistake. Even if students have demonstrated an emerging understanding through their involvement in the model, it is unlikely that they are ready to practice on their own. If they have partial understanding or their understanding is not "firm," requiring them to practice independently may result in errors. Although the expression, "We learn through our errors," may apply to many people, for students with LD, only one thing is learned when practicing errors: how to do something incorrectly. This is a characteristic of many individuals with LD that once they have practiced something incorrectly, it is extremely difficult for them to relearn it correctly (Deshler & Schumaker, 1988; Deshler, Schumaker & Lenz, 1984; Englert, 1984; Rosenshine & Stevens, 1986). Although some errors will occur, it is crucial to minimize them. One way of minimizing errors while allowing practice is through prompting.

Prompted practice is sometimes referred to as guided practice. The teacher prompts or guides students while they perform the emerging skill. This usually is done via verbal teacher questioning. Going back to the error-monitoring strategy mentioned above, the teacher may say the following, "You really seem to be understanding the strategy steps. Now it's time to begin to practice using them. I am going to guide you while you perform the steps. What will you do first?"

"Right." Go ahead and perform that step. "Excellent." Now, what do you do next? "That's correct." Go ahead and do it. This type of verbal prompting is similar to involving students in the model. The only difference is that the teacher has substituted the word "you" for "I." This is because, in the model step, the teacher is performing the strategy; in the prompt step, the student is performing it. This type of guided, structured practice provides support for students as they practice new skills. Proceeding step by step, versus telling them to perform the whole strategy and checking later to see how they did, allows the instructor to see if and error is made, thus allowing for immediate and corrective feedback, if necessary.

Principle #9: Use Controlled Materials

Another principle that can be used during initial prompted practice to reduce errors is providing "controlled" materials. What is being controlled is the difficulty level of the material or the situation in which the new skill is practiced. To illustrate: when teaching their children to drive, most parents proceed to the nearest empty parking lot rather than the freeway. In this way, they control the difficulty of the situation in which their children are practicing a new skill (driving). Specifically, they are increasing the odds that the initial practice will be successful and that mistakes will not be costly.

This type of controlled prompted practice also is often necessary in academic situations (Deshler, Ellis, & Lenz, 1996; Deshler & Schumaker, 1988). When teaching a reading comprehension strategy and providing initial practice in using the strategy, the teacher probably would not have students use it with difficult reading materials. A better option would be to allow them first to practice their new strategy using easy reading materials so that the difficulty of the material does not interfere with practicing the new skill. Once adults have demonstrated a high rate of success under prompted and controlled situations, the instructor gradually reduces the number of prompts and provides practice with increasingly more difficult materials; when success occurs with minimal prompting (and only then), independent practice can begin.

Principle #10: Provide Practice, Practice, Practice (and More Practice)

The word practice is written above four times to stress that independent practice is critical and that practicing once (or even twice) is insufficient for building proficiency or retention, especially for adults with LD (Englert, 1983; Rosenshine & Stevens, 1986). A too frequent practice is "teach and leave"; that is 7-20 all too often something is taught, practiced a couple of times, and then dropped. The assumption is that, if the student "gets it right" once or twice, he/she will always get it right. Not true! Practice must be both distributed and cumulative. Distributed practice, versus massed practice, which is what is done when "cramming" for an exam in school, occurs when practice is distributed over time. Independent practice should occur over time. Initially, newly acquired

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skills should be practiced (several times a week). If high rates of success are occurring, practice can be less frequent.

Newly acquired skills can be practiced by themselves (e.g., practicing correct grammar by writing sentences), or they can be practiced via cumulative practice. Cumulative practice occurs when a previously taught skill is practiced with other related skills. For example, correct grammar usage can be practiced with other previously earned sentence-writing or paragraph-writing skills or in the context of an overall error-correction strategy. Providing cumulative practice allows distributed practice as related skills are incorporated.

There are several guidelines for the instructor to keep in mind when developing and implementing independent practice. First, independent practice (e.g., out-of-class assignments) should never be assigned until adults with LD have demonstrated proficiency in the target skill. Second, when designing or selecting the format for practice (e.g., worksheet), the teacher should make sure that it actually requires the student to perform the skill in question. Often independent work tasks do not "match" the skill taught. Third, the teacher should make sure that the directions are clear. It may be a good idea to go over the assignment while still in class to ensure that students understand. Last, the teacher should make sure that a "reasonable" amount of work is required and that it matches the amount of time adults have in their lives for independent work activities.

Practice also helps to generate use of acquired skills (see Principle 13 for a further discussion of generalization). Multiple practice sessions with high rates of correct response lead to fluency (accurate and fast). Fluency means that the skill has become so automatic that an individual uses it with little conscious thought and applies it with ease. Because the skill is easy to use, its continued use is more likely. Skills that are not performed at a fluent level tend to go unused.

Principle #11: Require Frequent Responses

Too often, teaching resembles a monologue: teachers talk and learners listen. This method of instruction promotes passivity in adults with LD, who often are referred to as passive learners. Thus, an integral part of teaching adults with LD is keeping them actively involved in the lesson. One effective way to do this is to require as many responses as possible. Requiring frequent responses not only keeps learners focused on the content they are learning, it also provides the instructor with information about how well they understand what they are learning because he/she is getting continuous information about rates of correct and incorrect responses.

How many responses are enough? It depends. If relatively simple skills such as vowel sounds, initial sounds, etc., are being taught, whereby responses are short and the presentation rate is fast, then it is possible to require 10 to 15 responses per minute (or more). If the skill being presented or practiced is more complex (e.g., learning rule usage, a multi-step strategy), then several responses per minute may be more appropriate. In either case, the principle remains the same: the teacher should require as many responses as possible. One way the teacher can remember this principle is to use the three-statement rule: Never make more than three statements without requiring a student response.

Principle #12: Provide Corrective Feedback

No matter how well the information is presented, mistakes will be made. When this happens, the instruction needs to provide corrective feedback immediately. Teachers occasionally feel uncomfortable telling students they are "wrong." However, efficient and effective instruction requires that they do so and as soon as possible (Kline, 1989). In the error-correction/feedback process, the first thing the teacher needs to do is to closely monitor responses. If the teacher is not aware of an error, he/she cannot correct it.

There are several guidelines or procedures the instructor can follow (and some he/she should avoid) when correcting errors. First, if the incorrect responses are related to factual knowledge (e.g., saying a vowel sound, pronouncing a word, math fact), the instructor simply, and in a matter-of-fact manner, states or performs the correct answer/response and then requires the correct response. If the teacher is working with a small group, the correction can be done as a group. This may alleviate some embarrassment for whoever made the error because he/she is not being "singled out." Regardless of how correction is done (group or individual), the individual making the error should always end the error-correction process by making the correct response. Additionally, it is important for the teacher to go back later in the lesson and require the correct response/answer from the person who made the incorrect response (again, this can be done with the whole group). This helps to "firm up" the knowledge as well as to inform the instructor if a problem still exists.

If the error is procedural (rather than factual) in nature, the correction procedure is somewhat different. Procedural knowledge relates to how well tasks that consist of a series of steps or rule relationships are performed. For example, spelling rules fall under this category. If the instructor is teaching a spelling rule such as, "When a word ends in a vowel-consonant-e pattern, drop the "e" before adding an ending that begins with a vowel," and the student misapplies the rule, it is best for the instructor to use prompting as the error-correction method. Doing so reminds the learner of the rule and allows the teacher to ascertain where in the procedure the difficulty is occurring. Let's say the word seeing was spelled "seing" because the spelling rule was applied when it shouldn't have been. Then the teacher could say something like, "Let's look at this word (see). Tell me what the first part of the spelling rule is. "Right." You check to see if the word ends with a vowel-consonant-e. Does the word "see" end with a vowel consonant-e? "That's right, it doesn't. So in this case,

would you drop the "e" when you add the ending? That's right, you wouldn't. Go ahead and spell it correctly." In a procedural correction, just as in the factual correction, the skill always is performed correctly at the end.

A couple of relatively common teacher reactions to incorrect student responses should be avoided, including "going fishing" and "you're getting warmer." "Going fishing" occurs in group instruction. In this situation, an individual makes an error, and the teacher goes fishing for the right answer from others in the group (e.g., "No that's not it. Fred do you know the answer? No? How about you Ellen?" and so on.) Going fishing is a waste of instructional time and does not require the student making the error to make the correct response. It also is embarrassing for students. But most importantly, it does not provide students an opportunity to practice the skill correctly. "Getting warmer" goes something like, "No, but you're really close. Try again." "No, but that was closer; try again," and so on. Again, this approach wastes time, promotes guessing and often results in practicing errors. Because making mistakes can cause discomfort for all involved, there are several things the instructor can do to make instructional sessions "safe places" for making errors. First, when teaching in groups, the instructor should make corrections with the group instead of with the individual (the other can use the practice, too). Second, the instructor should make corrections in a neutral, non-threatening manner. Third, he/she should communicate that errors are part of learning. For example, when the instructor makes a mistake, he/she should admit it freely without being defensive.

Principle #13: Promote Generalization

A frequently noted aspect of a learning disability is difficulty in generalizing learned skills and strategies to other settings and to other similar tasks (Ellis, Lenz, & Sabornie, 1987a, 1987b). Unfortunately, if teachers are not aware of this characteristic, they may do what is known as "teach and hope"; that is, they teach a skill or strategy and then hope it will be used correctly in other contexts (i.e., with other persons, settings, and tasks). In this case, hoping usually is not enough. What is needed are specific activities for promoting generalization.

Generalization should be part of the instructional process from the beginning. It begins by having discussions early on about why the skill is important and where it can be used (see Principle 5). When a student has acquired a skill (i.e., can accurately perform the skill independently in the teacher's presence), additional procedures are used to ensure that the skill will be used appropriately in other contexts. First, the teacher should provide more discussion about the necessity of applying the newly acquired skill/knowledge beyond the context in which it was taught. This discussion centers on rationales for using the skill across settings, identifying settings and tasks that will likely require the skill, how learners will remind themselves to use the knowledge, and what kinds of cues exist that signal its use.

Discussions about generalization serve the important purpose of orienting students to the necessity of generalizing what they learn, but these discussions should be viewed as only a first step. Other specific activities are needed to promote generalization, including use of newly acquired skills outside of the tutoring situation (e.g., at home, on the job) and then a later discussion about how these skills were implemented and whether they were useful. Also, when appropriate, the teacher should suggest practicing new skills with a variety of materials. For example, if the skill in question is a reading comprehension strategy, the instructor should provide opportunities to apply the strategy when reading newspapers, magazines, fiction, etc. Too often, adults with LD do not readily see that a skill or strategy can be applied to other related materials or contexts (Ellis & Lenz, 1996).

So far, this discussion has centered on avoiding under generalization of newly acquired skills. Occasionally, depending on the type of skill taught, adults with LD also will over generalize. This phenomenon sometimes referred to as, "I just learned how to use a hammer and everything looks like a nail to me," occurs when an adult learns something but applies it indiscriminately. In this situation, it is your job to reduce overuse by teaching how to discern when it is appropriate (or inappropriate) to apply a skill or strategy. This is typically done through the use of non-examples (Kameenui & Simmons, 1990).

Non-examples are similar to example but vary slightly. To illustrate, if a teacher had just taught the phonic rule, "When a word ends with a vowel-consonant-e, you say the long sound of the vowel," and he/she provided only examples (words

that ended with a v-c-e pattern) with which to practice, it is possible that in the future students might over apply the rule (for example, when reading a consonant vowel-consonant word with no "e" ending). In order to teach them to discriminate when the v-c-e rule applies or does not apply, the teacher should provide practice that includes both v-c-e words and words that don't end with "e" (e.g., made and mad' tape and tap). This requires close inspection of practice items to see whether the rule applies. The teacher should remember that non-examples are different from exceptions. Exceptions are items that are included under the rule but do not follow the rule. When teaching rules, it is a good idea for the instructor to introduce exceptions after students have mastered the rule. If a rule has many exceptions, it is probably not a good rule to teach because it has limited application.

Principle #14: Be Prepared

Although this principle is being presented last, it actually is the first step in the teaching process. The other principles are presented first to provide a context for this important principle. Too often, teachers do not put in enough "up front" time prior to instruction. It is obvious from the above process that teaching adults with LD is not a simple matter and that a lot of thought and planning need to occur if instruction is to be effective and efficient. Preparation and organization are not fun or exciting, but they are necessary.

Preparation of a lesson requires a lot of thought. Teachers need to prepare rationales for teaching, decide which prerequisite skills need to be checked, determine how they will model and which materials to use, produce relevant examples and non-examples, develop or choose appropriate practice materials, and so on. Without this type of preparation and organization, this instructional process becomes inefficient and, in fact, may be confusing.

Being prepared also includes making the use of the limited amount of instructional time. Teachers who spend the first 5 to 10 minutes of an instructional session getting their materials (and their thoughts) together waste valuable learning time. Teaching effectiveness research shows time and again that the more time spent teaching effectively, the higher the levels of student achievement (Kameenui & Simmons, 1990; Rosenshine & Stevens, 1986).

Strategies to Extend Student Thinking

REMEMBER "wait time I & II"
Provide at least 3 seconds of thinking time after a question and after a response.

UTILIZE "think-pair-share"
Allow indidvidual thinking time, discussion with a partner, and then open up for the class discussion

ASK "follow-ups"
Why?/ Do you agree? / Can you elaborate? Tell me more. etc.

WITHHOLD JUDGMENT
Respond to student answers in a non-evaluative fashion

SUMMARIZE
Ask for summary to promote active listening

SURVEY the class
How many people agree with the author's point of view?

ALLOW FOR STUDENT CALLING
"Richard, could you please call on someone to respond?"

DEVILS ADVOCATE
Play devils adovcate by requiring students to defend their reasoning against different points of view.

UNPACKED THINKING
Ask students tounpaid their thinking by describing how they got an answer.

RANDOMLY SELECT
Randomly select students. Avoid the patter of only calling on those with raised hands

ENCOURAGE QUESTIONS
Let tudents develop their own questions

CUE STUDENT RESPONSES
"There is not a single correct answer for this question. I want you to consider alternatives."

CHARACTERISTICS THAT MAY BE PRESENT IN ADULTS WITH LD

Characteristics of Reading Difficulties Associated with LD

- Does not read for pleasure
- Does not use reading to gather information
- Has problems identifying individual sounds in spoken words
- Often needs many repetitions to learn to recognize a new or unused word
- Relies heavily on context to read new or unused words
- Oral reading contains many errors, repetitions, and pauses
- Efforts in reading are so focused on word recognition that they detract from reading comprehension
- Has problems with comprehension that go beyond word recognition; may have limited language skills that affect comprehension
- Has limited use of reading strategies, is an inactive reader, not previewing text, monitoring comprehension, or summarizing what is read
- Practices reading rarely, which may compound reading difficulties; lacks complex language and word knowledge

Characteristics of Writing Difficulties Associated with LD

- Has difficulty communicating through writing
- Written output is severely limited
- Writing is disorganized
- Lacks a clear purpose for writing
- Does not use the appropriate text structures
- Shows persistent problems in spelling
- Has difficulties with mechanics of written expression
- Handwriting is sloppy and difficult to read
- Demonstrates difficulties in revising

Characteristics of Math Difficulties Associated with LD

- Does not remember and/or retrieve math facts
- Does not use visual imagery effectively
- Has visual-spatial deficits
- Becomes confused with math operations, especially multi-step processes
- Has difficulties in language processing that affect the ability to do math problem solving

Characteristics of Speaking Difficulties Associated with LD

- Mispronounces words
- Uses the wrong word, usually with similar sounds
- Confuses the morphology, or structure of words
- Has a limited vocabulary
- Makes grammatical errors
- Speaks with limited repertoire of phrase and sentence structure
- Has difficulty organizing what to say
- Has trouble maintaining a topic
- Has difficulty with word retrieval
- Has trouble with the pragmatic or social use of language

Characteristics of Thinking Difficulties Associated with LD

- ➢ Has problems with abstract reasoning
- ➢ Shows marked rigidity in thinking
- ➢ Thinking is random, as opposed to orderly, either in logic or chronology
- ➢ Has difficulty synthesizing ideas
- ➢ Makes impulsive decisions and judgments
- ➢ Has difficulty generating strategies to acquire/use information and solve problems

Characteristics of Listening Difficulties Associated with LD

- ➢ Has problems perceiving slight distinctions in words
- ➢ Has a limited vocabulary
- ➢ Finds abstract words or concepts difficult to understand
- ➢ Has difficulty with non-literal or figurative language, such as metaphors, idioms, and sarcasm
- ➢ Confuses the message in complex sentences
- ➢ Has difficulty with verbal memory

Characteristics of Other Difficulties Associated with LD

- ➢ Has problems with attention, which may be accompanied by hyperactivity, distractibility, or passivity
- ➢ Displays poor organizational skills
- ➢ Has eye-hand coordination problems
- ➢ Demonstrates poor fine motor control, usually accompanied by poor handwriting
- ➢ Lacks social perception
- ➢ Has problems establishing social relationship; problems may be related to spoken language disorders
- ➢ Lacks "executive functions," including self-motivations, self-reliance, self-advocacy, and goal-setting