

### Section Three - Learning and Barriers

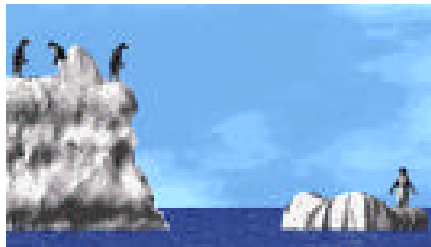
We know that students have many ways of learning. We have common sense and research that assures us that we do not learn in the same way, find interest in the same things and that we have different ways of approaching how we learn.

At present, our system of education sends out two conflicting messages.

- **the individual really matters**  
*and*
- **we teach subjects, not students.**

That incongruity heightens when we look at standardized testing. By the time a student gets into high school, the gap between what an individual student is able to learn and what that student had better be learning can be quite a chasm.

The situation is made more difficult by pressures to use one set of scores to decide who is teaching and learning, and the pressure for everyone to have a diploma to be considered for employment. If a student who does not learn in the typical way. It can feel rather like trying to get into the swim of things with a killer whale circling the iceberg.



Since the educational climate isn't likely to change, we need to be the professionals who find a way to serve our students. We cannot coax a student to jump off the cliff without the skills to succeed. At the same time, we can't leave them teetering on the edge, unable to dive in and find success. Every student is precious, so it makes no sense to take a "survival of the fittest" stance either. The cost of failure is high - high for the student, the family, the community, and our own sense of hopelessness and inadequacy.

**So what can we do? We support the student while we prepare them. If the student cannot learn to read, we teach coping, shortcuts, support systems, assistive technological advances. Not able to learn math? We utilize calculators, computers, peers, manipulatives. Short attention span? We help the student find ways to focus more efficiently**

**If a student has difficulty learning as most teachers teach, if entrance exams will be failed and doors closed because the student does not know how to learn, then we must teach the student how to find and use power tools. This next section addresses the possibility that we can expedite learning for students who have previously been thwarted.**

I am a *teacher*,  
and I believe in teaching and learning. I believe that great teachers teach what a student needs to learn, is prepared to learn, is excited about and motivated to learn. A *great teacher* does not teach to the test for the sake of scores -- a *master teacher* teaches the student what he or she can learn for the sake of the student.

And a student's skills are honed so that student can be all he or she is and share that with other youth, and ultimately with society.  
I believe each of us has strengths and hard places when we are learning, but I believe in seeing what will work, not what will look good.

LOW SCORES = not able to work comfortably at the same pace and on the same material as peers. They may signal learning problems, or missed skills, but they may also tell us that the student is just not ready to process that information. They may let us know that math is not a strength, but they do not tell us that math is a disability.

They may tell us that the student is not ready to learn math as it is being presented, but they do not tell us that the student is not ready to learn math. They may tell us that the student is not ready to learn math today, but they do not tell us that a student is not ever going to be ready to learn math.

Low scores do not = learning disability



Remember the big picture --- today the student is not learning, so how can you empower him to learn tomorrow?



The student may not do well on the tests --- how can you prepare him to do well in life?



The student may not be able to do everything in school .... at age 50 .... not so far away .... what will s/he be able to contribute to the community?



Today you set the foundation for that contribution or unfulfilled promise.



When we look at what is working, we find a key.

When we look at what a student can do - likes to do - is passionate about doing,

*We find a learning ability.*

When we recognize what a student:

- cannot do
- puts off,
- refuses to work on,
- gets poor scores on,
- finds frustrating and confusing,

*that* is the key to allowing us do a better job of helping the youth.

We view it as a challenge - an opportunity.

Because we honor the name, TEACHER, when we find something a student cannot do, we find a challenge rather than a disability.

Our challenge is to find what will work, what ought to come next, to prepare the student . . . TO DO and To Succeed

When we find something a student may never be able to do - we move on to *what they can do* rather than labeling the student as disabled.

*Can't carry a tune? Then that is not your strength, so we focus on what you can do. Can't memorize times tables? We will help you memorize something else, and give you a calculator.*

*Can't see colors? We will help you adapt and work on what you do well.*

### **Dr. J's Socratic Creed**

**I believe** that each person whom I teach will be a wiser person and a better human being for having been my student.




**I believe** in the moral, intellectual, emotional, social and physical upward development of every human being.

**I believe** that my presence as a teacher can promote and facilitate rather than retard this complete development.

**I promise** I shall never use my position of authority to belittle another human, but rather I shall always relate to the students under my care with the respect and the dignity they deserve, as the highest form of earthly life; capable of becoming more noble, perhaps with my help.

**I promise** to continue in my own upward development as a whole person and to devote my professional life to the practice of this creed.

## Reading issues and dyslexia

	<p>"I can't read that."          "Do letters move around when you try to read?"          "Yeah, I read the directions!"          "This is stupid."          My dad makes a ton of money and he didn't graduate!          * * * * *</p>	<p><b>Definition:</b> Dyslexia is a language-based learning disability in which a person has trouble reading words, sentences or paragraphs. Both oral and written language are affected.</p> <p>The Definition of Dyslexia as adopted by the Research Committee of IDA, May 11, 1994 and the National Institutes of Health, 1994 is...</p> <p>Dyslexia is one of several distinct learning disabilities. It is a language-based disorder of constitutional origin characterized by difficulties in single word decoding, usually reflecting insufficient phonological processing abilities. These difficulties in single word decoding are often unexpected in relation to age and other cognitive and academic abilities; they are not the result of generalized developmental disability or sensory impairment. Dyslexia is manifest by variable difficulty with different forms of language, often including, in addition to problems reading, a conspicuous problem with acquiring proficiency in writing and spelling.</p> <p><a href="http://www.interdys.org">http://www.interdys.org</a></p>
 <p><b>A Teacher Can!</b></p> 	<p>Teacher. . . can this student:</p> <ul style="list-style-type: none"> <li>* Focus attention on the words</li> <li>* Sound out words             <ul style="list-style-type: none"> <li>• Easily,</li> <li>• Phonetically</li> <li>• at grade level</li> </ul> </li> <li>* Know what the word means when able to say it?</li> <li>* Find meaning and understand, what was read?</li> <li>* Remember ideas to utilize them?</li> </ul>	<p>What can a teacher do about it?</p> <p style="text-align: center;"><b>Care, care, care!</b></p> <p>Until this student can read and make meaning.</p> <p>Otherwise, too many doors are shut, too many opportunities are lost to him or her. Too many of the student's gifts are lost to us all. A teacher is a facilitator.</p> <p><b>Great teachers <i>teach people</i>, not subjects.</b></p>

Reading, figuring out what the symbols mean and making meaning of it is complex and it is difficult. Every once in a while a program or author comes along who has all the answers. Ever notice how often reading programs and diets are being sold on TV? Ever notice all the fuss surrounding reading? The media even reports about and weighs in on the "Reading Wars."

**Learning to read, teaching others to read - occurs through acquiring bits of this, pieces of that. One day, enough pieces fit together and reading begins. Like putting together a puzzle, it helps to look at the box.**



This is a checklist to help identify the possibility that a student needs reading support. Take one day early in the instructional year and focus on basics of reading, watching for these points. It can be incorporated in the day by having students read a passage and then write a short response to the material. As the class is reading, go by each desk and note obvious signs of difficulty. Take the responses and check for additional clues. Once you recognize students who do these things, take a few minutes to chat with them. Ask them to help you identify the things they do well and check for weak areas. They know what you are doing, and that you care. By the week-end you and the students will know more about reading and writing skills.

### **Watch for these signs of trouble with literacy for Students in Upper Grades**

1. May read very slowly with many inaccuracies.
2. Continues to spell incorrectly, frequently spelling the same word differently in a single piece of writing.
3. May avoid reading and writing tasks.
4. May have trouble summarizing and outlining.
5. May have trouble answering open-ended questions on tests.
6. May have difficulty learning a foreign language.
7. May have poor memory skills.
8. May work slowly.
9. May pay too little attention to details or focus too much on them.
10. May misread information.
11. May have an inadequate vocabulary.
12. May have an inadequate store of knowledge from previous reading.
13. May have difficulty with planning, organizing and managing time, materials and tasks.

\* These are nationally recognized signs that a student is going to need special help and support to acquire grade level skills in reading:

<http://www.interdys.org>

Each of these is critical to successful reading and comprehension. As each area is strengthened, reading and school potential will increase dramatically.

With no additional instruction, the student is unlikely to progress in reading, achievement test scores, success in school, or feeling of adequacy as a learner.

Remember to include the student in the screening process. When s/he understands that these are discrete skills that can be taught, that it is possible to tap into success, motivation increases to work through and gain competence.



Teachers need to know what to do, and students need to realize that adding the necessary tools for success is a *time limited process*, like putting the car in the shop to get the timing belt replaced. Once things are inserted, replaced or repaired, the car will go! Once skills are learned, assimilated and become natural, the student will pick up speed and even catch up with peers who learned earlier. Reading will begin to be something to take for granted.

**Suggestions for further screening:** Speech Therapist, Optometrist, Reading Specialist

Good assessment tools for **recognizing individual needs**: Slingerland, Brigance, ARI

## Informal Literacy Screening

Name \_\_\_\_\_

Date \_\_\_\_\_

**Directions:** Observe a student while working independently. Next, add information by having the student read aloud. Use student self report to gather a picture of the issues from the student perspective. Once strengths and needs are identified, begin addressing them with the support activities listed.

Concerns	While reading	Observation	Self report	Page for support
Reads very slowly with many inaccuracies.				p.
Not aware that specific sounds are associated with letters; or some sounds are missing.				p.
Avoids reading and writing tasks.				p.
Can't focus attention on the printed marks and /or control eye movements across the page.				p.
Answering open-ended questions on tests is resisted or not possible.				p.
Not understanding words or placement in text				p.
Not capturing meaning from the passage				p.
Build ideas and images based on words decoded				p.
Able to put those ideas into words verbal or written, perhaps even utilize to answer questions				p.
Stores few ideas in memory.				p.
Spells common words incorrectly, and spells the same word differently in one sample of writing.				p.
Comparison of new ideas to current knowledge not automatic or rich.				p.
Has trouble summarizing and outlining				p.
Misreads information.				p.
Slow to start, slow going. . .				p.
Little attention to details or lost in details				p.
Foreign words present difficulties				p.
Poor memory skills				p.
Limited vocabulary				p.
Little knowledge from previous reading				p.
Forgot previously covered material				p.
Organizing and managing difficulties				p.

## Quick Checks on Reading Potential, Ability, Areas to Strengthen

This is another potential checklist in this approach to assessing student reading potential. As you look at the developmental milestones that connect with learning to use language effectively, notice that many skills are sequential. The student acquires the skills, often in order, but not during the typical time, meaning the student may not have been ready for and benefited from instruction, when usually presented.

It also means that it is fine to start checking off skills at the first column, then go to the next until skills in all three columns are verified. (This is also available in the appendix in linear form).

### Developmental Screening for Milestones and Occurrences related to Reading

Directions: It is most useful, when doing a developmental screening, to ask a parent to chat about language development. It can be a pleasant discussion, based on anecdotes and recollections of idiosyncratic actions and family stories. Some youth may know these, as well.

Pre-school	Younger students K-4	Grades 5-8
<p>May talk later than most children.</p> <p>? May have difficulty pronouncing words i.e., "busgetti" for "spaghetti", "mawn lower" for "lawn mower".</p> <p>? May be slow to add new vocabulary words.</p> <p>? May be unable to recall the right word.</p> <p>? May have difficulty with rhyming.</p> <p>? May have trouble learning numbers, alphabet, days of the week, colors, shapes, write or spell own name.</p> <p>? May be unable to follow multi-step directions or routines.</p> <p>? Fine motor skills may develop</p>	<p>? May be slow to learn the connection between letters and sounds.</p> <p>? Has difficulty decoding single words (reading single words in isolation).</p> <p>? Has difficulty spelling phonetically.</p> <p>? Makes consistent reading and spelling errors such as:</p> <ul style="list-style-type: none"> <li>. Letter reversals - "d" for "b"</li> <li>as in: "dog" for "bog"</li> <li>. Word reversals - "tip" for "pit"</li> <li>. Inversions - "m" for "w," "u" for "n"</li> <li>. Transpositions - "felt" for "left"</li> <li>. Substitutions - "house" for "home"</li> </ul> <p>? May confuse small words - "at" for "to," "said" for "and," "does" for "goes."</p> <p>? Relies on guessing and context.</p> <p>? May have difficulty learning new vocabulary.</p> <p>? May transpose number</p>	<p>? Is usually reading below grade level.</p> <p>? May reverse letter sequences - "soiled" for "solid," "left" for "felt."</p> <p>? May be slow to discern and to learn prefixes, suffixes, root words, and other reading and spelling strategies.</p> <p>? May have difficulty spelling; spells same word differently on the same page.</p> <p>? May avoid reading aloud.</p> <p>? May have trouble with word problems.</p> <p>? May write with difficulty with illegible handwriting; awkward pencil grip, fist-like or tight.</p> <p>? May avoid writing.</p> <p>? May have difficulty with written composition.</p> <p>? May have slow or poor recall of facts.</p> <p>? May have difficulty with comprehension.</p>



<p>more slowly than peers'.</p> <p>? May have difficulty telling and/or retelling a story in the correct sequence.</p> <p>? Often has difficulty separating sounds in words and blending sounds to make words.</p>	<p>sequences or confuse arithmetic signs (? - x / =).</p> <p>? May have trouble recalling facts.</p> <p>? May be slow to learn new skills;</p> <p>relies heavily on memorizing (often very limited, already) without understanding.</p> <p>? May have difficulty planning, organizing and managing time, materials and tasks.</p> <p>? Often uses an awkward pencil grip - fist, thumb hooked over fingers, etc.</p> <p>? May have poor "fine motor" coordination.</p>	<p>? May have trouble with non-literal language (idioms, jokes, proverbs, slang).</p> <p>? May have difficulty with planning, organizing and managing time, materials and tasks.</p>
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**Reading is remarkably complex.**

**These interlocking activities occurring simultaneously.**

<b>Skill</b>	<b>Definition</b>	<b>Assessment Example</b>
Configuration	visual image of the word - sees the word as a visual	Can fill in letters to fit the shadow space of a word - almost automatically
Context analysis	clues from position in sentence, on the page, and punctuation clues	Guesses a proper name since the word starts with a capital; Question because of punctuation, .recognizes noun position
Sight words	instant recognition of word	Recognizes own name immediately
Phonics analysis	use sound rules to give voice to the word	Can figure out how to say a word based on sounding out the letters
Syllabication	dividing the word into sound bits, cadence when reading	Knows to break down word into consonant / vowel bits senses a rhythm
Structural analysis	recognizing prefixes and suffixes, plurals, compound words, part if speech	Uses complex understanding of words to decode a word and its meaning - skill acquired as reading becomes advanced
Dictionary analysis	last resort -look it up	Words like charisma and fatigue defy the rules and may require referencing.
<b>Comprehension skills</b>	<b>Definition</b>	<b>Assessment</b>
Vocabulary development	Meaning, layers of meaning and word subtitles emerge	This shows up in two ways - ability to "get" the meaning while reading, and utilize the word in personal writing
Literal meaning	Recognize and understand the story line, plot, outcome	When asked, can explain the story line, sequence of events, main character, plot
Inferred meaning	Glean ideas and opinions that are embedded	Sense of what comes next in the story, can provide intentions for characters
Evaluation	Moving beyond meaning to	Can discuss fiction or non fiction nature

	judge the writing and its impact, fact, value to self	of the material, assess if the author made a point, inaccuracies, opinions
Appreciation	Connecting emotions to the material	Enjoys or dislikes the material, is excited about sharing the ideas with others
Personalization	Project ideas and opinions	Chooses to write, tells a personal story even uses varying genre

Wish to get started now? Strengthen your teaching repertoire and personalize this information by choosing one of the skills and develop a strategy to support student competency, focusing on your current students and abilities.

### How to watch and informally assess reading and literacy skills

- How does the student focus attention on the printed marks?
- What kind of eye movements occur as the student looks across the page?
- Does the reader recognize the sounds associated with letters?
- Is there a specific group of sounds that are elusive or troublesome for the reader?
- Test for sound and letter recognition in two different directions.
  - Use an alphabet, printed out in large font. Point to the various letters and ask for the name of the letter
  - Now use the alphabet letters, combined in word form. A common example is  
**The quick brown fox jumped over the lazy dog.**
- How much understanding of words and grammar seems to be happening simultaneously with reading?
- Is there evidence that the student builds ideas and images while reading?
- Does the student automatically compare new ideas to previous learning? If asked, can the student do it?
- How much does the student remember --- store ideas in memory, right after reading, next day, in a later unit?
- Did the student capture meaning from the passage?
- Can the student put those ideas into words -- verbal or written, perhaps even utilize to answer questions?

### Guidelines for LD and Dyslexia

- Announce readings as well as assignments well in advance.
- Find materials paralleling the textbook, but written at a lower reading level. (Also, include activities that make the reading assignment more relevant.)
- Introduce simulations to make abstract content more concrete.
- Make lists of required readings available early and arrange to obtain texts on tape from Recording for the Blind or a Reading/Typing Service.
- Offer to read written material aloud, when necessary.
- Read aloud material that is written on the chalkboard and on the overhead transparencies.
- Review relevant material, preview the material to be presented, present the new material then summarize the material just presented.
- Suggest that the students use both visual and auditory senses when reading the text.
- Rely less on textbooks. Reading for students with learning disabilities may be slow and deliberate, and comprehension may be impaired for the student, particularly when dealing with large quantities of material. Comprehension and speed usually dramatically increase with the addition of auditory input.
- Spend more time on building background for the reading selections and creating a mental scheme for the organization of the text.
- Encourage students to practice using technical words in exchanges among peers.
- Choose books with a reduced number of difficult words, direct non convoluted syntax, and passages that deliver clear meaning. Also, select readings that are organized by subheads because this aids in the flow of ideas.
- When writing materials for reading by students with learning disabilities, some of the following strategies are useful for students who have hearing issues, dyslexia or LD

- Use highly visual materials (e.g., many figures, pictures, diagrams) in reading assignments.
- Allow the student to use a tape recorder

**Curriculum adaptations in reading and writing:**

- Shorten assignments based on mastery of key concepts.
- Shorten spelling tests based on mastering most functional words.
- Substitute clay models, posters, cartoons, panoramas, puppet shows, models, dioramas, plays, for written assignments.
- Change from percentage to mastery grading.
- Decrease all forms of competitive marking and grading.
- Allow students to work in pairs who have complementary learning strengths so both feel capable in some areas of learning.
- Specify, list and make a check up document stating exactly what the student will need to learn to pass, and do it at the beginning of the grading period and then make weekly references to it, with the student having the progress chart available for personal motivation.
- Modify expectations so student can succeed.
- Have conferences to help student recognize the value of concepts and help choose ways to demonstrate learning.
- Use both printed and oral directions on assignments.
- Give directions in small chunks that student can remember and accomplish successfully.
- Have student repeat directions to determine that communications are clear.
- Show a model or provide rubrics for the finished product.
- Provide support as soon as the student shows frustration or flagging interest.
- Check progress frequently in the first few minutes of the assignment.
- Break large assignments in to smaller chunks and help student succeed at each juncture.

## Literacy Screening

### Early indicators

- May talk later than most children.
- ? May have difficulty pronouncing words i.e., "alluniumum, "busgetti" for "spaghetti", "mawn lower" for "lawn mower".
- ? May be slow to add new vocabulary words.
- ? May be unable to recall the right word.
- ? May have difficulty with rhyming.
- ? May have trouble learning numbers, alphabet, days of the week, colors, shapes, write or spell own name.
- ? May be unable to follow multi- step directions or routines.
- ? Fine motor skills may develop more slowly than peers'.
- ? May have difficulty telling and/or retelling a story in the correct sequence.
- ? Often has difficulty separating sounds in words
- ? Gets confused or unfocused when blending sounds to make words.

### Primary skills

- ? May be slow to learn the connection between letters and sounds.
- ? Has difficulty decoding single words (reading single words in isolation).
- ? Has difficulty spelling phonetically.
- ? Makes consistent reading and spelling errors such as:
  - Letter reversals - "d" for "b" as in: "dog" for "bog"
  - Word reversals - "tip" for "pit"
  - Inversions - "m" for "w," "u" for "n"
  - Transpositions - "felt" for "left"
  - Substitutions - "house" for "home"
- ? May confuse small words - "at" for "to," "said" for "and," "does" for "goes."
- ? Relies on guessing and context.
- ? May have difficulty learning new vocabulary, names for objects.
- ? May transpose number sequences or confuse arithmetic signs (? - x / =).
- ? May have trouble recalling facts.
- ? May be slow to learn new skills; relies heavily on memorizing (often very limited, already) without understanding.
- ? May have difficulty planning, organizing, managing time, materials and tasks.
- ? Often uses an awkward pencil grip - fist, thumb hooked over fingers, etc.
- ? May have poor "fine motor" coordination; i.e.

### Working so hard and still trying -- grades four and above

- ? Is usually reading below grade level often with rudimentary skills.
- ? May reverse letter sequences - "soiled" for "solid," "left" for "felt."
- ? May be slow to discern and to learn prefixes, suffixes, root words, and other reading and spelling strategies.
- ? May have difficulty spelling; spells same word differently on the same page.
- ? May avoid reading aloud.
- ? May have trouble with word problems.
- ? May write with difficulty with illegible handwriting; awkward pencil grip, fist-like or tight.
- ? May avoid writing.
- ? May have difficulty with written composition.
- ? May have slow or poor recall of facts.
- ? May have difficulty with comprehension.
- ? May have trouble with (does not catch on to) idioms, jokes, proverbs.

# Reading Report

Student Name \_\_\_\_\_

Date \_\_\_\_\_

Teacher \_\_\_\_\_

<b>Reading Abilities</b>	<b>Initial success</b>	<b>1<sup>st</sup> quarter</b>	<b>2nd quarter</b>	<b>3rd quarter</b>	<b>Finale</b>
Reading speed					
Reading accuracy					
Specific sounds are associated with letters - Alphabet, blends, vowel combinations					
Initiates reading tasks - starts work on own, uses references, internet searches, pleasure					
Initiates writing tasks - notes, takes notes,					
Slow to start, minutes involved					
Speed of work - laborious, plodding, quick, focused on accuracy, dashes through					
Eye movements across the page					
Focus attention on the words - minutes able to do this, level of intensity - lost in reading					
Misreads information.					
Builds ideas and images based on passage - with help, automatically, deep, rich, creative					
Understands words and placement in text.					
Captures meaning from the passage					
Stores ideas in memory - during session, recalls, during day, recalls next day					
Can put ideas gleaned into writing					
Summarizes main ideas, sub plots					
Spelling is consistent and phonetic					
Student knows when word may not be right					
Mnemonic devises are used for some words					
Little attention to details or lost in details					
Little knowledge from previous reading					
Answers open-ended questions on tests					
Foreign words present difficulties					
Organizing and managing difficulties					
Limited English vocabulary					
Retains previously covered material					



These building blocks are cognitive foundational skills for reading.

Focus attention

Recognize sounds associated with letters

Vocabulary building with picture and mind associations

Memory work

Capture meaning from reading

Respond to questions about material -- get it in and get it back out!

Acquiring and practicing for expertise

### **Reading Associated Skills**

These are ways these reading associated skills affect the reading experience.

Read very slowly with many inaccuracies

- Slow to start

- Slow going

- Avoids reading

Not aware that specific sounds are associated with letters; or some sounds are missing.

Can't focus attention on the printed marks and /or control eye movements across the page.

Not understanding words or placement in text

Not capturing meaning from the passage

Misreads information

Stores few ideas in memory

- Poor memory skills and practices

- Little attention to detail

- Main thoughts lost in all the details

- Can't answer open ended questions

- Little knowledge from previous reading

- Forgot previously covered ideas or material

Limited vocabulary

Spelling of common words presents inconsistent results

Foreign words present difficulties

Organizing and managing difficulties

- Avoids writing tasks

- Has trouble summarizing

- Has difficulty with outlining tasks

- May not be able to recognize a topic sentence


Ability to build ideas from passage is limited

Outcomes and predictions do not flow from the story

Ability to put ideas into words is limited

- Ability to translate verbal ideas to the page is limited

## Math issues and dyscalculia or dysnomia

	<p>"I hate math."</p> <p>"I need to go see the nurse, I have a stomach ache, that's all."</p> <p>"This is stupid."</p> <p>"My dad said you don't even need this stuff."</p>	<p style="text-align: center;"><b>Definition</b></p> <p><b>Dyscalculia</b> - a mathematical disability in which a person has unusual difficulty solving arithmetic problems and grasping math concepts.</p> <p>Having a difficult time performing math to the point of being unable to successfully process numbers - and often it also includes feeling threatened by the subject.</p>
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Underlying causes of math difficulties:

*Visual Processing Weakness* - This may be the most common cause of math difficulty. Math requires the student to visualize numbers and math situations. When a person has a generalized visual processing weakness it is sometimes referred to as a nonverbal learning disability. It is useful to note that many teachers do not teach math in a way that requires visualization, instead many approaches still require almost entirely on working memory.

*Deficits in Working Memory* - Difficulty holding a series of concepts in the head at one time while performing math functions is common with many students and especially true of LD. It certainly describes the student with attention deficit disorder. For help with basic facts, move to p. 66.

*Sequencing Problems* - Students who have difficulty sequencing or organizing detailed information often have difficulty remembering specific facts and formulas for completing math calculations. If this is the underlying cause of a student's math difficulties, there is often also difficulty in getting and keeping the details.

*Math "phobia"* - Some students just develop a "fear" or "phobia" of math either because of negative experiences in their past, inconsistent educational experiences, or lack of self-confidence. Sometimes math phobia can cause as much difficulty as a learning disability. <http://www.ldinfo.com/dyscalculia.htm#top>

Math seems like a paradox. We all need it; we cannot be self-sufficient in life without the ability to understand and use money, days of the month, time of day, how much water to boil, how long to let something cook in the microwave. At the same time, many of us have ambivalence - almost a love-hate feeling about math.



Many of us had a devil of a time in some of our math classes!

As we look back, there are so many things that go with teaching math that many of us never use -- don't know when to use -- haven't seen anyone else use. And there are a ton of things we wish we could use, but never get a handle on how or when to do the processes.

*(Don't let this secret get out, but there are also a lot of math things I finally learned and started to use once I was teaching math to others. . . See, hear, use, teach others --- the best steps to follow if we want students to understand and use math)*

**!!! Easy Changes to promote success !!!**

! Give students responsibility to teach the math concept they have difficulty grasping --to others

! Working in groups and developing tricks around barriers provides constructivist opportunity

1. Where does math fit in **this student's life** ---

*for this year* and as an *ultimate destination*.

What the youth can do this year	Potential math ability
Short term goals: fractions, place value, number sense	Long term or overarching goal - functional math skills
NOW	SOME DAY

2. **What is math and how does it help a student?** It is not really multiplying, dividing, adding, subtracting and algebraic equations.

It is **the study of pattern and the use of patterns to solve problems**. It is embedded in life - and in life skills. Independent living is dependent upon having or achieving "math sense." It is so much a part of our lives that we don't think about it until we see someone who is missing it. Perhaps a student can't make change for a dollar. Possibly the youth doesn't know what size of container to get for the leftovers, can't double a recipe. For that matter, perhaps the student doesn't know the difference between a fractional and metric wrench.

3. **What does math ability look like?** Math success occurs when youngsters have the tools to:

form and remember associations	understand basic relationships
make simple generalizations	see and use patterns

From [National Council of Supervisors of Mathematics](#)

**Math** is an important art of living an independent life. It is important for students to feel successful while taking math classes - and it is important for them to have success in preparing for the myriad of ways that numbers, relationships, using patterns and problems solving. These are critical steps for insuring math success.

### I. Assess the student's math skills.

Placement scores from the district or State achievement tests are a good start. Once a general level of numeracy is established, it is important to work, one-on-one with the student. Set up tasks that will allow observation of the way the student approaches a problem, and when possible, have the youth talk about what s/he is thinking as a task is performed.



At the fundamental levels, look for **classification** -- Emily (our imaginary student for this discussion) classifies coins by size and cannot overcome the notion that dimes really are worth less than pennies.

Ordering is difficult for many youngsters. It involves seeing a pattern and using it consistently, then being able to turn around and apply a different rule and rearrange materials to fit the changed rules. Emily can put clothes together by color, but she cannot make the leap to hot or cold climate apparel. She can match socks,



two by two, but cannot then put them in the drawer according to dressy or daily. She can make a row of X blocks or a row of O blocks, but putting them X O X O X O is too hard.

**One-to-one correspondence** is emerging. She can count blocks for about five items, and then she begins to group blocks and say one number, skip a block while counting, or say two numbers before changing to a new block. It comes as no surprise when we check on **conservation** skills, to find that they are not yet present. Emily can be fooled into drinking a smaller amount of soda by offering her a tall thin glass instead of a low fat glass of liquid. Her sisters do it all the time. Since these are emerging skills, and Emily has not yet mastered them, our conference with her will focus on math readiness. We can insist that she learn addition and subtraction facts, use flash cards or jump rope games to get her to learn the drills, but we cannot hope to build a math castle without a foundation. Basic skills are still our focus, because that is the point where Emily can have success -- and it is the area where she is motivated to push and press and learn.


The next areas for testing include the **underpinnings** for successfully completing and understanding operations - addition, subtraction, multiplication, division -- and basic axioms -- associative, commutative, distributive properties and inverse operations. These tap into the ability to recognize and use **patterns** and to generalize the patterns and associations from one set of experiences to another. Remember those basics for success in math?

**Computation** adds another dimension. This is where rigor, drill, practice, and order fit into math. Many youngsters see relationships and make generalizations, but the way they process information makes math success uncertain. When a student repeatedly gets the same kind of problem wrong, it is often the result of not knowing HOW to do the problem. Listen to a Bob's discussion while he solves the problem.

In this problem,  $32 + 47$ , Bob says, "Three and two are five and four and seven are eleven, so the answer is 16." Bob does not see 32 as a distinct number and there is much work ahead, including teaching tens and units. On the other hand, Mark says, "Thirty-two and forty-seven, hmmm. In the first column, the sum is 12 - put down a two and carry the ten over. . ." Ask further and it becomes clear that Mark reversed the two in his mind and saw it as a five. Mark has the necessary mathematical understanding, but it won't show up until he finds the tools to recognize when reversals are occurring and sets up a system to prevent this from occurring.

Both students get the problem wrong, but the reasons for errors are critical. We can see, by talking with the boys -- using informal assessment and determining the thinking that is occurring, that what we do for Bob will be completely different from what we help Mark learn to do for himself.

### Assessment in Math

	<p>Assessment is finding a way to tease out the background from the foreground. We know when a student is not understanding, but finding out why --- that is the piece that is so vital.</p> <p>Of course, we can use formal and informal assessments, but it will not give us as much insight as</p> <p><i>... Asking the student what is working and what is not --- it actually helps them to identify that</i></p> <p><i>... and listening to the student as s/he self talks (what are you thinking while you work) and works out a math problem.</i></p>
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#### Steps in math assessment usually include:




- General readiness**                      those basics - relationships, 1:1, conservation, ordering or sequencing
- Understanding of operations**      conservation, commutative, associative, distributive
- Specific skills**                            knows math facts, recalls and uses steps in computation, understands the processes

**Problem solving**

sees the relationships and utilizes them in real life, in word problems, in verbal exchanges

**Fluency and accuracy**

does the process correctly over and over again, can use speed, almost like solving the problems is second nature, consistently gets the right answers.

	 <h2 style="display: inline;">Using Timed Tests</h2>
 <p style="text-align: center;"><b>"NO-NO"</b></p>	<p>Tests usually give us information about <b>power</b> or <b>speed</b>.          Power tests give students plenty of time to show ability and are looking for understanding.          Speed tests assume that the student is already able to do the work, and just check for fluency.</p> <p style="padding-left: 40px;">Using timed tests to measure depth of student mastery is great.</p> <p>Using timed test to determine power may "shut down" a student's ability to think and work, and contribute to math anxiety, decreasing student motivation to work and succeed in math.</p> <p style="text-align: center;">A little adrenaline goes a long way..... </p> <p>It is important to understand brain function. Anxiety shuts down the cognitive processes and puts the entire body on alert status. When we use timed tests, it needs to be something the student chooses.</p>

**II. Honor the developmental nature of learning to understand math.** Piaget, Vygotsky, and many modern educators believe that being able to understand and utilize math is developmental. At the same time, there are a number of children who seem to have a knack for "knowing" or seeing patterns, relationships, generalizations in an age defying way, and without formal training.

Who didn't feel a sense of astonishment when the male character in "Rainman" (the movie) knew how many toothpicks fell on the floor? Who could help but be astounded when the boy in "Little Man Tate" (the movie) instantly knew answers to questions stumping other "genius" youth? Some students have a knack for understanding math, just like some children seem to be instantly successful at reading, while others struggle with each step forward.



Developmentally appropriate practice supports understanding that students need to be **ready** to take full advantage of material. We can promote that growth by getting students ready in every way possible. We cannot take the cognitive leap for a student. If we go on as though the leap occurred, we ultimately waste time, or worse, may make the tasks seem so impossible that the child's mind shuts down. Math anxiety occurs when a student feels forced to see what has not been "viewable" in previous attempts.

What we want to do is prepare the student, so when that moment of readiness appears, we can take full advantage of the energy and excitement that comes along with the cognitive leap. We want to utilize all the other ways to support the breakthrough by providing math worthy experiences that include patterns, opportunities for problem solving, counting, game playing, manipulating, until the "Ah-Ha" arrives.

**Math for Emily** and students who are not yet ready for an hour of formal "book" math each day or who are developmentally delayed can strengthen skills with game playing such as:

**Bingo****Connect Four****Tic tac toe****Yahtzee with dice counting**

Board games with money counting, space counting, one to one correspondences

Adding and subtracting face values on cards

Following recipes for fractions, including doubling the ingredients for addition

Dominos for recognition of space, counting, estimating, memory

Nintendo games that require logic and keeping track of time and space

Computer games that emphasize rhythm, timing, speed, using numbers.

We also find that dance or dance exercise promotes rhythm, awareness of timing and counting. Opportunities to buy things using money, to count and recount money in the process of waiting for "enough" to purchase something can be very stimulating and facilitates memory for coins and numbers. Remember to use the phone, too. Many students love to communicate with the phone, and the play phone has a great number pad. We can use puzzles, dot to dot, music and singing to enhance her movement toward cognitive readiness to use numbers as separate entities. Emily, like so many others in high school, has an adult looking body, but her mind takes its own time to grow into math.

**Recipe file of methods to help with math**

Here are a potpourri of ideas, gleaned from many sources.

**1. Ruler use**

Measures 1,5,7,9, and 12 within  $\frac{1}{4}$  of an inch.

Converts the amounts in each to centimeters, correct to within 3 centimeters.

**2. Popcorn Math**

- a. Measure  $\frac{1}{2}$  cup of raw unpopped corn
- b. Estimate how many kernels of corn are in that  $\frac{1}{2}$  cup.
- c. Count the kernels. There are \_\_\_\_\_ kernels.
- d. Were you over or under? \_\_\_\_\_
- e. Estimate how many cups of popped corn you will get.
- f. Pop the corn, then measure it.
- g. Cups of corn, popped \_\_\_\_\_.
- h. Were you over or under? \_\_\_\_\_
- i. How long a strand of corn can be made from this?
- j. String the corn.
- k. Measure in feet \_\_\_\_\_, yards \_\_\_\_\_ inches \_\_\_\_\_, meters \_\_\_\_\_.

**3. French Fry Sort**

- a. The students are asked to sort out the three sizes of fries, brought in by them or a teacher.
- b. The number of fries in each is counted.
- c. The number of fries in each is weighed.
- d. Students determine the average weight of one fry \_\_\_\_\_ ounces; grams \_\_\_\_\_
- e. Students compare amounts in each and determine the cost of each fry in the different package sizes.
- f. Students try different ways of determining the proportion of fries from one size to another.

4. **Hershey Bar Happiness** (milk chocolate, no almonds)
  - a. Measure the candy bar in inches and centimeters.  
 Length in inches \_\_\_\_\_ in centimeters \_\_\_\_\_  
 Width in inches \_\_\_\_\_ in centimeters \_\_\_\_\_
  - b. Count the sections \_\_\_\_\_.
  - c. Write on a piece of paper, the fraction that tells how much you prefer,  $\frac{1}{2}$  or  $\frac{1}{10}$ .
  - d. Teacher comes around and gives each student the piece size they chose.

5. **Hershey Bar II**
  - a. Break the bar in half
  - b. How many sections are in each half \_\_\_\_\_ ?
  - c. How many sections are in each  $\frac{1}{4}$  \_\_\_\_\_ ?
  - d. Measure one square or section \_\_\_\_\_ inches \_\_\_\_\_ centimeters
  - e. One section is  $\frac{1}{_____}$  of the whole bar.
  - f. Break the sections all up and put them in a row.
  - g. Measure the row \_\_\_\_\_ inches \_\_\_\_\_ centimeters.

Eat two sections. Measure the remainder \_\_\_\_\_ inches \_\_\_\_\_ centimeters.


**Remember** some of the following as worthy practice:

1. We all grow - and we continue to grow most of our lives, so if the student isn't ready today, practice patience.
2. Growth has it's own individual calendar and one of the best ways to enhance growth is safety. When we feel safe, we reach out for stimulation. When we feel anxious, we tend to retreat.
3. Play is one of the natural tools for growth. It is appealing and motivating, so it supports many hours of on-task practice and experiences.
4. In that same way, role-playing is powerful. Asking a child to "be teacher" is a powerful way to involve the creative energy and focus of the child toward "understanding" so they can relay the ideas to others.
5. The child probably does not really "know" what is best for the self, but attending to the nonverbal cues, natural excitement, and things the child is drawn to can help us make the most supportive plan for growth.
6. Good timing, snacks and exercise can support learning. We utilize them in earlier grades, and often forego them as children get older and have better physical discipline, but they are still very powerful.
7. Feeling powerful and "in control" is part of feeling safe. When students are empowered to learn, to set times and tasks rather than being forced, they learn much faster. When children feel trusted and supported, they can give us their best. When they feel important and valued, respond in kind. If a child is not responding positively, it is crucial to model those responses so the youth can learn.

**III. Honor the individual.** In the second grade, students seem to have a lot of persistence, motivation, belief that they can accomplish, joy in learning, need to know. It is often necessary for a teacher to bandage up blistered hands, for children who are learning to swing on the monkey bars will go back out and defy the painful blisters in order to master the skills. This type of single-minded focus is the hall mark of developmentally appropriate practices. When a student has that kind of intensity and focus, the right things are being taught. If that is not the response we are getting, we should seriously search for that "magic"

place. That same diligence may be a part of learning to ride a dirt bike, ski, use a skateboard, as the student matures.

It is appalling to think about how difficult it is to learn to walk. Children fall down again and again, legs quivering, bumps from coffee tables and bruises from abrupt loss of balance, not withstanding. How does a newborn get from that helpless state to a point of successfully walking and talking inside 18 months -- without a manual, lesson plans, formal training, grades for effort.

	<ul style="list-style-type: none"> <li>• Charlotte Scott, a deaf mathematics professor, was the Chief Examiner in mathematics for the U.S. College Board.</li> <li>• Lev Potryagin, who was blind from adolescence, eventually became vice president of the International Mathematics Union.</li> <li>• Stephen Hawking, confined to a wheelchair since 20 years of age, is a professor of mathematics at Cambridge University in England, and has given us some of the most powerful looks at the meaning of the universe through his study of physics.</li> <li>• Edison, who holds more patents than any single individual in the U.S., was removed from school, for his teacher believed him too retarded to learn.</li> </ul>
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**Remember -- if you wish to teach students instead of subjects,**

- When a student says "NO" find out why.
- When a student says "I CAN'T", believe him or her and back up to the place where success can occur.
- When a student expresses discouragement, go beyond encouraging and listen to the student's true message.
- If a skill eludes a student, try the following:
  - Link math instruction to the student's current conceptual understanding.
  - Give students problems that pertain to their own lives.
  - Teach word problems as games and have students develop their own rather than solving preset ones.
  - Concentrate on the success and what is going well.
  - Allow students to find personal methods for solving math problems and then get them to teach it to others.
  - Encourage students to use manipulatives, calculators, computer games to enhance depth and rate of learning.
  - Find ways to generalize math operations to current, every day use of the skills.
  - How about drill? Rote memorization can help, but drill can kill -- kill interest in math and in its place create boredom, carelessness, or worse, -- rebellion

**Adapting for Auditory Learners**



- ❖ Be certain to explain the directions orally before having student begin to work

- ❖ Provide a verbal summary of each step.
- ❖ During an activity, use key words to focus students' attention to tasks, for example, "Now watch."
- ❖ Allow students to discuss the work as it progresses; to ask peers questions, to share insights, to provide help to one another verbally. [Sometimes you can tell who these students are by watching who "buzzes" as soon as instructions are given -- since these students often turn to others to get a repetition of directions or to say out loud - self talk - what the instructions seem to be].
- ❖ Let students tape record lectures or make a video, when there is a lot of board work, so they can review it and listen as often as needed.
- ❖ Purchase tapes that explain math and let students check them out.

### Adapting for Visual Learners



- ❖ Use concrete manipulatives or demonstrations and modeling to show students what they need to do.
- ❖ Have students practice what they observed.
- ❖ Use mental pictures to punctuate verbal instructions.
- ❖ Consider using nonverbal signs to pace of the lesson or as an aide to transitions in the lesson.
- ❖ When possible, make picture cue cards or overheads showing the sequence of tasks. Use pictures and graphs to explain processes.

### Adapting for Kinesthetic Learners



- ❖ Expect students to gain insight from using manipulatives.
- ❖ Discuss (two-way talk) what the student is finding and extend learning by modeling some of the outcomes when a student is stumped.
- ❖ Pair the student with others who learn through touch and let them work in cooperative groupings, sharing insights.
- ❖ Use a number of different mediums for learning - rods, blocks, puzzles, glitter, food, so the student generalizes the concepts rather than identifying learning with one setting. ( From Mercer and Mercer, 1988)

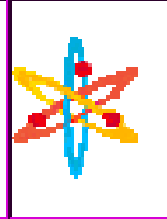
**IV. Believe that all can learn math,** and that we can develop strategies to help students succeed. But also, remember that math does not come from a book, that it is not always sequential, that we cannot force learning and love of a subject. We love to do things that we find challenging, that we may be able to get good at doing and that feel hopeful for us. We do not love to fail and we do not love to feel threatened. Sometimes it helps to recall what math is really about, so once more, we define math as being able to:

form and remember associations	understand basic relationships
make simple generalizations	see and use patterns

*If we teach our children merely to compute while we teach our computers to think ever more intelligently, who is*

## Empowering the Student - Collaborative Classrooms - Loving to Learn

To involve students  
To emphasize to students their responsibility for learning.  
To reinforce learning by active participation.  
To encourage students to learn from each other.  
To open up a questioning attitude  
To develop learning skills for lifelong learning



In collaborative classrooms, students are initiators and active participators. Students set goals and plan learning tasks; during learning, they work together to accomplish tasks and monitor their progress; and after learning, they assess their performance and plan for future learning. As mediator, the teacher helps students fulfill their new roles.

Students prepare for learning in many ways. Especially important is goal setting, a critical process that helps guide many other before-, during-, and after-learning activities. Although teachers still set goals for students, they often provide students with choices. When students collaborate, they should talk about their goals to clarify and solve the problems actively. As students become actively involved they can design learning tasks and self monitor time on task and progress in learning and constructing personal learning. While teachers plan general learning tasks, students assume responsibility for planning their own learning activities. Ideally, these plans come from goals students set for themselves. Thoughtful planning by the teacher ensures that students can work together to attain their own goals and capitalize on their own abilities, knowledge, and strategies within the parameters set by the teacher.



**Students** are likely to engage in self-regulated tasks with more purpose and interest than in traditional classrooms. Students learn to take responsibility for monitoring, adjusting, self-questioning, and questioning each other. Such self-regulating activities are critical for students to learn today, and they are much better learned within a group that shares responsibility for learning.

- . **Monitoring** is checking one's progress toward goals.
- . **Adjusting** refers to changes students make, based on monitoring, to reach their goals.
- . **Self questioning** moves from "what grade" to what do I know, what do I need to do next to learn more?
- . **Questioning and collaborating with others** steps toward life long learning. "Who can I help, who can support my learning and understanding."

Self-assessment is intimately related to ongoing monitoring of one's progress toward achievement of learning goals. In a collaborative classroom, assessment means more than just assigning a grade. It means evaluating whether one has learned what one intended to learn, the effectiveness of learning strategies, the quality of products and decisions about which products reflect one's best work, the usefulness of the materials used in a task, and whether future learning is needed and how that learning might be realized.

Collaborative classrooms are natural places in which to learn self-assessment. And because decisions about materials and group performance are shared, students feel more free to express doubts, feelings of success, remaining questions, and uncertainties than when they are evaluated only by a teacher. Furthermore, the sense of cooperation (as opposed to competition) that is fostered in collaborative work makes assessment less threatening than in a more traditional assessment situation. Ideally, students learn to evaluate their own learning from their experiences with group evaluation. Adapted from the writing of M.B. Tinzmann, B.F. Jones, T.F. Fennimore, J. Bakker, C. Fine, and J. Pierce NCREL, Oak Brook, 1990 - *What is the collaborative classroom?*

***The transfer from teacher directed learning to student as successful, life long learner*** requires taking time to get to know the student, discuss what the student knows and believes the next step might be. It means trusting the student to care.



### Conferencing with the Student

- 1) Begin the conference by establishing rapport and giving the student time to talk about math and attitudes or feelings about personal level of competence. In that period of time it is inappropriate to correct shared feelings -- [think of it like telling a person he or she is wrong about a choice of a favorite color or food].
- 2) Give the student a forum for sharing current successes - "strut their stuff" time.
- 3) Ask the student to provide the next challenge - and if the student is uncertain about the next step, offer a problem that dovetails with the current success and a challenging new skill.
- 4) Allow the student to attempt to solve the new challenge, using personal skills, and make note of the strategies used and the "talking" or verbalization of the issues involved in solving the challenge.
- 5) Jointly make a goal that moves the student into the new challenge, and offer guidance on strategies to be employed in learning the new skills.
- 6) Jointly develop an assessment plan.
- 7) As possible, allow students to work together in pairs to conference and build new goals, and eventually, provide a weekly time for these strategy sessions to take place. Once a week, briefly review student progress [can be done in about 60 seconds while students are setting goals or working independently.]

<b>Skills that <b>students</b> believe contribute to math success:</b>	
Focus	Find ways to visualize the problem being posed
Attention to detail	A sense of adventure - ability to create, try, risk
Interest in working backward and forward - from possible answers to question, from math problem to correct answer.	Number sense - notion of how many are there, what makes sense as an answer, what fractions are about, that tables and number lines are assists, not the enemy
Memory for a few moments, or a tool / pattern to compensate	Care enough to check the answer

**Student keys to success -----**



1. Work extra hard to "visualize" math problems. Maybe even draw yourself a picture to help understand the problem.
2. Take extra time to look at any visual information that may be provided (picture, chart, graph, etc.).
3. Read the problem out loud and listen very carefully. This allows you to use your auditory skills (which may be a strength).
4. Ask to see an example.
5. Ask for or try to think of a real-life situation that would involve this type of problem.
6. Do math problems on graph paper to keep the numbers in line.
7. Ask for uncluttered worksheets so that you are not overwhelmed by too much visual information.  
Spend extra time memorizing math facts. Use rhythm or music to help memorize.

From: Strategies for students with math difficulties: <http://www.ldinfo.com/dyscalculia.htm#top>

#### Student Self Check

Step for success	Time spent min./problem	Successful	
		Yes	No
I			
Visualized the problem			
Read available charts, graphs, pictures			
Said problems out loud - a partner really helps			
Came up with a real life example			
Used colored graph paper			
Wrote problems neatly and used enough paper to keep the questions and answers organized			

#### Books with excellent ideas:

Kenschaft, P. C. (1997). *Math Power: How to help your child love math, even if you don't*. Reading, MA: Addison-Wesley.

Mercer, C. D. and Mercer, A. R. (1998). *Teaching students with Learning Problems* (5th ed.). Upper Saddle River, NJ: Merrill.

#### A little Math Fun

1. Pick a number from 2 to 9. It can be 2 or it can be 9, or any number in between.
2. Take that number that you've chosen, and multiply it by 9.
3. That should give you a two digit number. Take those two digits and add them together.
4. Take the resulting number and subtract 5 from it.
5. Take that number and correspond it to the alphabet, numbering the letters. A =1, B=2, C=3, D=4 and so on.
6. Take your letter, and think of a country that begins with that letter.
7. Take the last letter in the name of that country, and think of an animal.
8. Now, take the last letter in the name of that animal, and think of a color.
9. Scroll down to find the solution -- at the bottom of this page.

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There are no ORANGE KANGAROOS in DENMARK



Remember, according to the National Math Council, math success occurs when youngsters can:

form and remember associations	understand basic relationships
make simple generalizations	see and use patterns

It may be helpful to develop interventions for enhancing math instruction. Use the following chart to organize your basic activities and add extensions for those with special learning needs. For more examples and great lesson plans, try <http://r.searchhippo.com/r2.php?i=7&q=math+lessons+on+association&u=http%3A%2F%2Fwww.nctm.org%2F> And then click on **illuminations**.

**Concept: Form and remember associations and connections**

Level of student understanding	LD	Math anxious	Mild DD	Moderate DD
Preparation to learn				
Concrete				
Semi-concrete				
Abstract				

**Example:**

- ❖ How many sides in a \_\_\_\_\_
- ❖ Measure student height and do activities to establish tall, taller, tallest
- ❖ Addition and subtraction facts that are reversals

**Web example:** <http://standards.nctm.org/document/examples/chap4/4.6/index.htm>

**Concept: Make simple generalizations**

Level of student understanding	LD	Math anxious	Mild DD	Moderate DD
Preparation to learn				
Concrete				
Semi-concrete				
Abstract				

**Example:**

- ❖ If - then statements
- ❖ Analogy work - Sky is to blue as \_\_\_\_\_ is to white  
Sky is to blue as cloud is to white .
- ❖ Measuring liquid using different size containers, same amount of liquid
- ❖ Measuring areas, showing different sides can still be same area
- ❖ Play 20 questions to help students focus and narrow on clusters of ideas

**Concept: Understand basic relationships**

Level of student	LD	Math anxious	Mild DD	Moderate DD
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<b>understanding</b>				
Preparation to learn				
Concrete				
Semi-concrete				
Abstract				

**Example:**

- ❖ Counting by 2, 5, 10
- ❖ Interchange fractions to decimals to division problems as ways to solve the problems
- ❖ Larger than, smaller than
- ❖ Make predictions
- ❖ Estimating
- ❖ Using money to explain decimals
- ❖ Match game - numerous conceptual matches
- ❖ Find the difference

**Web example:** <http://standards.nctm.org/document/eexamples/chap5/5.2/index.htm>

**Concept: See and Use Patterns**

<b>Level of student understanding</b>	<b>LD</b>	<b>Math anxious</b>	<b>Mild DD</b>	<b>Moderate DD</b>
Preparation to learn				
Concrete				
Semi-concrete				
Abstract				

**Examples:**

- ❖ Find the missing number
- ❖ Symmetrical or asymmetrical
- ❖ Number charts to show facts - construct them, use them to get answers

**Web example:** <http://standards.nctm.org/document/eexamples/index.htm>  
<http://standards.nctm.org/document/eexamples/chap6/6.4/index.htm>

**Tips:**

**LD** - The crucial piece here is to help the youth identify what is getting in the way. It may be spacing, distractions, memory retrieval, a concept or two that are not fully understood. It may be a need for graph paper to align things, a calculator to speed up the process so the student does not lose focus. LD students also may need a leap frog approach to math. Many times we assume, because a student could do page 44, the next page will make sense, but it may not be what the student needs. Teach the youngster to reason aloud, to teach to others so the concepts are established and to believe s/he can learn..... so when a road block appears, it is easy to get help getting it removed rather than giving up.


**Mild delay** - It takes more repetitions, more hands on work, more time to get the material. Remember how important it is to give the student the time needed to construct math meaning.

**Significant intellectual challenges** - pare math down to the essential facts needed to survive and to be self sufficient in day to day living. Teach essential concepts as part of the life skills approach. If later, the student can give meaning to regular math instruction, it can be folded into the math experiences.

**Math Anxious** - This is the most complex challenge to math success. It only goes away as the student experiences success, yet the student is often so reluctant, the approach of math sets off the adrenaline reaction. Help the student by taking a new approach to math -- no tests, no grades, no paper and pencil until the student opts for them. Instead, use film strips, manipulatives, life experiences to help the student "sneak up on" success with numbers.



## Communicating in writing

	"I'm stuck." "I don't know what to say." "I didn't plagiarize; it's just a coincidence."	<b>Definition:</b> <b>Dysgraphia</b> - a neurological-based writing disability in which a person finds it hard to form letters or write within a defined space.
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Skills that contribute to writing success

1. Recognize and use punctuation.
2. Able to spell enough words to ease writing ideas down.
3. Handwriting needs to be legible and flow.
4. Reading level above target writing.

The steps to acquire those skills and help student learn to write material that is "out of this world:



Many youngsters who find writing difficult, enjoy doodling. Consider beginning with a comic strip of five or six frames.

### Steps for making a comic strip with a message:

Help the student fix on a main character who would deliver the message best.

Come up with a brief message - one liners for ending are often most successful.

Organize the page by frames.

Now the words need to fit the pictures and vice versa..

Once the comic is done, check to see if it has a rhythm to it.

Check for spelling and punctuation so the message gets through quickly.

This process corresponds to six trait writing. It is also the model for writing success.



Try an "ad campaign" for TV. Follow the same process as the comic strip



Write a letter to a soldier - pen pal - rock star - sports hero

Six trait writing program is a complex and comprehensive place to begin. The 6-trait writing model is a way to teach writing to older youngsters and include assessment in the process. This model focuses on six qualities seen in outstanding written works. The six traits include:



**Ideas** -The content, or main theme. Can be looked at as the heart of the message.

**Organization** - The internal structure of the writing.

**Voice** - The personal voice of author comes through. This gives a sense of a real person speaking.

**Word Choice** - The use of precise, colorful and rich words to communicate.

**Sentence Fluency** - The writing flows together often with a rhythm or cadence.

**Conventions** - Mechanical correctness, including spelling and grammar.

Acquiring and practicing for expertise

Many students have poor early handwriting because they are not ready to perform the requisite small muscle tasks. It can be useful to begin ten minutes of writing during the day, with emphasis on fluency - and yes, teaching cursive can actually help the student move quickly since the motions are more fluid and the letters are connected.

Several scoring guides for six trait writing are on-line. This one comes from the Virtual Charter School.

<http://vcs.usd458.k12.ks.us/parents/6-trait/scoringguide>

Northwest Regional Laboratories provides materials and training for 6+1 trait writing.

<http://www.nwrel.org/assessment/departement.asp?d=1>

## 6-Trait Scoring Guide

	<b>Ideas and Content</b>	<b>Organization</b>	<b>Voice</b>	<b>Word Choice</b>	<b>Sentence Fluency</b>	<b>Conventions</b>
<b>5</b>	<p><b>Focused, Clear, and Specific</b></p> <p>My writing is full of details that keep the reader's attention and show what is really important about my topic.</p>	<p><b>Clear and Compelling Direction</b></p> <p>I've chosen an order that works well and makes the reader want to find out what's coming next.</p>	<p><b>Really Individual and Powerful</b></p> <p>My paper has lots of personality. It sounds different from the way anyone else writes.</p>	<p><b>Extremely Clear, Visual and Accurate</b></p> <p>I picked just the right words.</p>	<p><b>Varied and Natural</b></p> <p>My sentences are clear and delightful to read aloud.</p>	<p><b>Mostly Correct</b></p> <p>There are a few errors in my paper. It wouldn't take long to get this ready to publish.</p>
<b>3</b>	<p><b>Some Really Good Parts, Some Not There Yet</b></p> <p>The reader usually knows what I mean. I need to tell just a little more about what is important.</p>	<p><b>Some Really Smooth Parts, Others Need Work</b></p> <p>The order of ideas or events makes sense most of the time.</p>	<p><b>Individuality Fades In and Out</b></p> <p>What I truly think and feel shows up sometimes.</p>	<p><b>Correct But Not Striking</b></p> <p>The words in my paper get the message across, but they don't capture anyone's imagination or attention.</p>	<p><b>Routine and Functional</b></p> <p>Some sentence are choppy or awkward, but most are clear.</p>	<p><b>About Halfway Home</b></p> <p>A number of mistakes in my paper need to be cleaned up before I am ready to publish.</p>
<b>1</b>	<p><b>Just Beginning to Figure Out What I Want to Say</b></p> <p>When someone else reads my paper, it will be hard for them to understand what I mean.</p>	<p><b>Not Shaped Yet</b></p> <p>The order in my paper is jumbled and confused. I'm feeling dizzy!</p>	<p><b>Not Yet Me</b></p> <p>I'm not comfortable sharing what I truly think and feel yet.</p>	<p><b>Confusing, Misused Words, and Phrases</b></p> <p>My reader often asks, "What did you mean by this?"</p>	<p><b>Needs Work</b></p> <p>There isn't enough "sentence sense" yet. This paper is difficult to read aloud, even with practice.</p>	<p><b>Editing Not Under Control</b></p> <p>It would take a first reading to decode, and then a second reading to get the meaning of my paper.</p>

More lesson plans than you can imagine - <http://www.kent.k12.wa.us/staff/ljancola/6Trait/lessons.htm>

Some simple ones to start - <http://www.olympus.net/personal/skoehler/6trait/>

The **Virtual Charter School** program also provides a scoring rubric for students that is excellent.

## Student Rubric and guide to revising

**Directions:** For each comment you agree with, put an X in the blank. Use this list as a guide to revise your paper on the six traits on which it will be scored.

### IDEAS AND CONTENT

- My paper has a clear purpose or makes a point.
- I use clear, relevant details and examples.
- I stick to the main idea (or ideas and leave out details that do not matter).
- I have thought about my topic carefully and feel as if I know what I'm talking about.

### ORGANIZATION

- The way I've started my paper is effective; it would make the reader want to keep reading.
- I've told things in an order that makes sense and makes it easy to follow what I'm saying.
- The details in my paper go together or lead up to some bigger idea, main point, or conclusion.
- My paper ends well; it doesn't just stop suddenly, but it doesn't drag on too long either.

### VOICE

- I've written in a way that shows how I really think and feel about this topic.
- I like what I've written; it's fun to read.
- I've put something of myself into this paper and it sounds like me - not someone else.
- I've given some thought to what the reader will think and feel when reading this.

### WORD CHOICE

- It's easy to picture what I'm talking about; the words paint a picture in the reader's mind.
- I wasn't satisfied with words / phrases I've heard many times before; I tried to find my own way to say things.
- My writing sounds natural; it sounds like me.
- Sometimes I've tried saying something in a new or different way; I've had fun with the language.

### SENTENCES

- My sentences make sense; the meaning of each one is clear, and there are no words left out.
- My sentences have variety; some are longer than others and they do not all begin the same way.
- I've read my paper over and like the way it sounds; it's smooth and easy to read.

### CONVENTIONS

- I've proofread my paper and corrected any errors in spelling, punctuation, or grammar.
- My paragraphs begin in the right spots.
- I've used capital letters to begin sentences and on all proper nouns (names of persons, places or things).
- Correct spelling, grammar, capitalization, punctuation and paragraphing make my paper EASY to read.



### Enriching and supporting improvement:


- Provide guidance on topic selection
- Remember that students often have too many ideas and then not any. Help them learn to jot ideas down as they come and to "tee" off others' ideas to regain fluency
- Use post-it notes to jot down ideas and to organize them.... and colors can distinguish steps in the writing process
- Help the student organize ideas - and ask for input to increase the repertoire. Here are two ideas



+ Use the senses - colors, food, games + Use movement to describe steps - like Twister

**Focus issues**

ADD is estimated to affect 17 million Americans, including an estimated 4 to 12 percent of the school-age population. Statistics suggest that only one out of every three people who have an attention disorder get help.

	<p>Have difficulty paying attention to details.</p> <p>Easily dis tracted by all events that are occurring at the same time.</p> <p>Difficult and unpleasant to stay on task long enough to finish their schoolwork and takes high energy to force self to comply.</p> <p>Put off things that require a sustained mental effort.</p> <p>Prone to make careless mistakes.</p> <p>Disorganized, losing track of books and assignments</p> <p>Appears not to listen when spoken to.</p> <p>Often fails to follow through on tasks.</p>	<p><b>Definition:</b> Students who have executive function issues can fade in and out of attention, and have difficulty deciding what is important when many things occur at once. For most, everything has equal call on their attention and each gets only momentary perusal with little information stored for recall.</p> <p>Attention Deficit Disorder is about focus.</p> <p>Attention Deficit is real, and all of us have times when this occurs. The ADD student feels this way all the time.</p>
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**What is it like to have ADD - by Edward M. Hallowell, M.D. Copyright (C) 1992**  
<http://www.add.org/content/abc/hallowell.htm>

There is this syndrome called ADD or ADHD, depending on what book you read. So what's it like to have ADD? Some people say the so-called syndrome doesn't even exist, but believe me, it does. Many metaphors come to mind to describe it. It's like driving in the rain with bad windshield wipers. Everything is smudged and blurred and you're speeding along, and it's reeeeeeally frustrating not being able to see very well. Or it's like listening to a radio station with a lot of static and you have to strain to hear what's going on. Or, it's like trying to build a house of cards in a dust storm. You have to build a structure to protect yourself from the wind before you can even start on the cards.

In other ways it's like being super-charged all the time. You get one idea and you have to act on it, and then, what do you know, but you've got another idea before you've finished up with the first one, and so you go for that one, but of course a third idea intercepts the second, and you just have to follow that one, and pretty soon people are calling you disorganized and impulsive and all sorts of impolite words that miss the point completely. Because you're trying really hard. It's just that you have all these invisible vectors pulling you this way and that which makes it really hard to stay on task. Plus which, you're spilling over all the time. You're drumming your fingers, tapping your feet, humming a song, whistling, looking here, looking there, scratching, stretching, doodling, and people think you're not paying attention or that you're not interested, but all you're doing is spilling over so that you can pay attention. I can pay a lot better attention when I'm taking a walk or listening to music or even when I'm in a crowded, noisy room than when I'm still and surrounded by silence. God save me from the reading rooms.

What is it like to have ADD? Buzzing, being here, there and everywhere. Someone once said, "Time is the thing that keeps everything from happening all at once." Time parcels moments out into separate bits so that we can do one thing at a time. In ADD, time collapses. Time becomes a black hole. To the person with ADD it feels as if everything is happening all at once. This creates a sense of inner turmoil or even panic. The individual loses perspective and the ability to prioritize. He or she is always on the go, trying to keep the world from caving in on top. Museums. (Have you noticed how I skip around? That's part of the deal. I change channels a lot. And radio stations.

Drives my wife nuts. "Can't we listen to just one song all the way through?") Anyway, museums. The way I go through a museum is the way some people go through Filene's basement. Some of this, some of that, oh, this one looks nice, but what about that rack over there? Gotta hurry, gotta run. It's not that I don't like art. I love art. But my way of loving it makes most people think I'm a real Philistine. On the other hand, sometimes I can sit and look at one painting for a long while. I'll get into the world of the painting and buzz around in there until I forget about everything else. In these moments I, like most people with ADD, can hyperfocus, which gives the lie to the notion that we can never pay attention. Sometimes we have turbocharged focusing abilities. It depends on the situation.

Lines. I'm almost incapable of waiting in lines. I just can't wait, you see. That's the hell of it. Impulse leads to action. I'm very short on what you might call the intermediate reflective step between impulse and action. That's why I, like so many people with ADD, lack tact. Tact is entirely dependent on the ability to consider one's words before uttering them. We ADD types don't do this so well. I remember in the fifth grade I noticed my math teacher's hair in a new style and blurted out, "Mr. Cook, is that a toupee you're wearing?" I got kicked out of class. I've since learned how to say these inappropriate things in such a way or at such a time that they can in fact be helpful. But it has taken time. That's the thing about ADD. It takes a lot of adapting to get on in life. But it certainly can be done, and done well.

As you might imagine, intimacy can be a problem if you've got to be constantly changing the subject, pacing, scratching and blurting out tactless remarks. My wife has learned not to take my tuning out personally, and she says that when I'm there, I'm really there. At first, when we met, she thought I was some kind of nut, as I would bolt out of restaurants at the end of meals or disappear to another planet during a conversation. Now she has grown accustomed to my sudden coming and goings. Many of us with ADD crave high-stimulus situations. In my case, I love the racetrack. And I love the high-intensity crucible of doing psychotherapy. And I love having lots of people around. Obviously this tendency can get you into trouble, which is why ADD is high among criminals and self-destructive risk-takers. It is also high among so-called Type A personalities, as well as among manic-depressives, sociopaths and criminals, violent people, drug abusers, and alcoholics. But it is also high among creative and intuitive people in all fields, and among highly energetic, highly productive people.

Which is to say there is a positive side to all this. Usually the positive doesn't get mentioned when people speak about ADD because there is a natural tendency to focus on what goes wrong, or at least on what has to be somehow controlled. But often once the ADD has been diagnosed, and the child or the adult, with the help of teachers and parents or spouses, friends, and colleagues, has learned how to cope with it, an untapped realm of the brain swims into view. Suddenly the radio station is tuned in, the windshield is clear, the sand storm has died down. And the child or adult, who had been such a problem, such a nudge, such a general pain in the neck to himself and everybody else, that person starts doing things he'd never been able to do before. He surprises everyone around him, and he surprises himself. I use the male pronoun, but it could just as easily be she, as we are seeing more and more ADD females.

Often these people are highly imaginative and intuitive. They have a "feel" for things, a way of seeing right into the heart of matters while others have to reason their way along methodically. This is the person who can't explain how he thought of the solution, or where the idea for the story came from, or why suddenly he produced such a painting, or how he knew the short cut to the answer, but all he can say is he just knew it, he could feel it. This is the man or woman who makes million dollar deals in a catnap and pulls them off the next day. This is the child who, having been reprimanded for blurting something out, is then praised for having blurted out something brilliant. These are the people who learn and know and do and go by touch and feel.

These people can feel a lot. In places where most of us are blind, they can, if not see the light, at least feel the light, and they can produce answers apparently out of the dark. It is important for others to be sensitive to this "sixth sense" many ADD people have, and to nurture it. If the environment insists on rational, linear thinking and "good" behavior from these people all the time, then they may never develop their intuitive style to the point where they can use it profitably. It can be exasperating to listen to people talk. They can sound so vague or rambling. But if you take them seriously and grope along with them, often you will find they are on the brink of startling conclusions or solutions.

What I am saying is that their cognitive style is qualitatively different from most people's, and what may seem impaired, with patience and encouragement may become gifted. The thing to remember is that if the diagnosis can be made, then most of the bad stuff associated with ADD can be avoided or contained. The diagnosis can be liberating, particularly for people stuck with labels like, "lazy", "stubborn", "willful", "disruptive", "impossible", "tyrannical", "a spaceshot", "brain damaged", "stupid", or just plain "bad". Making the diagnosis of ADD can take the case from the court of moral judgment to the clinic for treatment.

**Learning to focus** - Focusing is similar to concentrating. Most of us have to alter our surroundings and circumstances to focus. We often want a quiet place and do not want to be distracted while we are trying to zero in on a task. When we do get focused, we do not want to be disturbed or we lose that *altered state* we achieved. When someone interrupts us, we are likely to be testy, feel frustrated and have to start over again to get back to the place where we can do the work.

The ADDA works with older youngsters and young adults to find ways to successfully tap abilities and minimize learning and thinking distractions. Here is the set of guidelines they suggest. Clearly, this model provides support for high school youth.

## The ADDA Guiding Principles for Coaching Individuals with Attention Deficit Disorder

Presented by: The ADDA Subcommittee on ADD Coaching  
Chairperson: Nancy A. Ratey, Ed.M., MCC

Coaching intervention can make a real difference in how people with AD/HD negotiate their own particular deficits and cope with life on a daily basis. There are five major deficit areas that can be seen playing out in the lives of persons with AD/HD. The following is a discussion of these areas, and how the coaching relationship can offer successful compensatory strategies.

### 1. Coaching maintains mental arousal and focus on completing goals.

If attention is under-aroused, chances are motivation will lag also, and vice versa. For instance, people with AD/HD often have a hard time pursuing abstract goals. Coaches seek to bring the more abstract goals to the forefront of their clients' minds, keeping attention aroused to work on the goal and stay focused until it's completed.

The coaching partnership provides a "shared awareness", or mutual consciousness, of goals and their associated challenges so as to sustain the AD/HD client's vigilance towards an identified goal. The coach works with the client to create deadlines, schedules, meetings and regular phone check-ins around reaching goals. This induces a certain level of "good stress" on clients, keeping their brain aroused, vigilant, and on track to reach stated goals.

### 2. Coaching helps modulate emotions.

Shame, guilt and fear are demons plaguing many people with AD/HD. Years of being labeled "stupid", "ditzzy" or "irresponsible" create an emotional burden that can derail their actions, throw them off course or even paralyze them. A coach helps clients learn how to identify bad feelings and their triggers, and explores effective ways to modulate emotional responses. Instead of blaming themselves when AD/HD gets in their way, clients can think: "Wait a minute! I know this is my AD/HD at work, and I know I have ways to get around it now." By isolating the behavior from the emotion, the behavior can be broken down into parts to take the mystery out of it, giving clients an opportunity to think up strategies to contain and change the behavior.

### 3. Coaching maintains motivation and sustains the feeling of reward.

Motivation is often questioned in people with AD/HD. Although clients may have developed the tools

to sustain attention to tasks, they may still lack motivation. By reminding clients of their top priorities and of all the gains they have made, the coach provides encouragement. Self-confidence is bolstered.

The client may under-function in certain situations, especially when it comes to prioritizing, planning, attending to details and following through with projects. In other instances, the client may become overwhelmed with a project, and not knowing where to start, may avoid the task. By breaking large projects down into smaller, more manageable tasks, coaches keep clients more focused on their goals. Other clients might need help in discovering a system of tangent rewards so as to sustain motivation and progress forward.

#### **4. Coaching acts as the "Executive Secretary of Attention."**

Clients with AD/HD are challenged in their ability to "gross prioritize", to gather and focus their attention in a more global way. By keeping the big picture in mind, the coach helps the client to sustain their attention on their primary goals, pointing out distractions and helping to create strategies when distractions do arise.

#### **5. Coaching supports the client's ability to self-direct actions and to change behavior.**

In order to function autonomously, individuals must be able to screen out distractions, sustain their attention and use feedback appropriately. Attentional arousal is a double-edged sword for people with AD/HD. While it is usually the case that their attention needs to be aroused in order to attack certain tasks, it is also true that if their attention is too aroused they can find themselves becoming "over-focused" and getting stuck in a particular activity or step of a task at the cost of everything else. Just as they can be sidetracked by pleasurable feedback, clients can also be sidetracked by negative feedback such as those "voices in the head" that continually remind one of one's inadequacies. Clients with AD/HD are also very adept at self-deception and forgetting the pain of past procrastination and other self-defeating behaviors.

The coach compensates for these deficits by providing daily reminders and helping the client sequence out the details of needed actions. By pressing clients to process and evaluate outcomes and consequences, the coach allows clients to develop the ability to make more proactive choices and be less reactive to the environment. Coaches also help clients develop the ability to estimate the time it takes to complete tasks by having on-going discussions, reviewing plans for timelines and processing out the details and sequences of tasks. The coach helps clients to, in effect, observe themselves in action, by processing out events, asking questions and providing feedback. <http://www.add.org/content/coach/coachingguidelines2.htm>

### **Finding ways to get focus back**

- Quicken the pace of the classroom.
- Use more hands-on and kinesthetic components in your teaching.
- Use charts to help students organize material.
- Give students sheets for self-monitoring and then review and honor the findings, paying off with agreed upon rewards, supports.
- Maximize stimulation but minimize how many are offered at one time.
- Provide a place for the student to put on headphones and regain focus.
- When a student cannot move forward with an assignment, move to something else and return to the task when the student has the energy to try again.
- Consider providing green tea and coffee on an as needed basis for students.
- Use snacks with high carbohydrate content to support student energy levels.
- Help the student generate checklists for self-monitoring - a good change of pace and provides organizational points for the student.
- When practical, allow the student to use keyboarding and the computer to accomplish tasks.

## **LIST OF APPROPRIATE SCHOOL-BASED ACCOMMODATIONS AND INTERVENTIONS**

*FOR A 504 PLAN OR FOR ADAPTATIONS AND MODIFICATIONS SECTION OF AN IEP*

by Rebecca Chapman Booth

<http://www.add.org/content/school/list.htm>

Choose only those accommodations and interventions that are the **most** needed. Attempt to select low-level accommodations and interventions before moving to more supportive or high-level accommodations and interventions. If high-level accommodations are necessary, choose them with the goal of slowly removing them whenever possible. The objective should always be to provide support while encouraging growth with these strategies to foster independence and self-advocacy.

### **Alter the environment**

#### **Provide this Student with Low-Distraction Work Areas**

Provide this student with a quiet, distraction free area for quiet study time and test-taking. It is the responsibility of the teacher to take the initiative to privately and discretely (do not draw peer attention to the student) "send" this student to a quiet, distraction-free room/area for each testing session. It is important to assure that once the student begins a task requiring a quiet, distraction-free environment that no interruptions be permitted until the student is finished.

Always seat this student near the source of instruction and/or stand near student when giving instructions in order to help the student by reducing barriers and distractions between him and the lesson. For this reason it is important to encourage the student to sit near positive role models to ease the distractions from other students with challenging or diverting behaviors.

In order to reduce distractions, computers and other equipment with audio functions operated in this student's classroom or designated work areas must be used with earphones to eliminate the sound being broadcast into the classroom or designated work area.

Always seat this student in a low-distraction work area in the classroom.

#### **Prepare the student for transitions**

Prepare the student in advance for upcoming changes to routine - field trips, transitions from one activity to another, etc.

Plan supervision during transitions – between subjects, classes, recess, lunchroom, assemblies, etc.

Prepare the student in preparing for the end of the day and going home, supervise the student's book bag for necessary items needed for homework.

#### **Adaptations for a Student with Hyperactivity**

Allow the student to move around. Provide opportunities for physical action – pace in the rear of the classroom, do an errand, wash the blackboard, get a drink of water, go to the bathroom, etc.

Make sure the student is always provided opportunities for physical activities. Do not use daily recess as a time to make-up missed schoolwork. Do not remove daily recess as punishment.

Permit the student to play with small objects kept in their desks that can be manipulated quietly, such as a soft squeeze ball, if it isn't too distracting.

#### **Alter Presentation of Lessons/Accommodations for assignments**

Make sure all homework instruction and assignments be clear and provided in writing (not simply aloud).

Provide this student with information that is clear and in writing

Provide a consistent, predictable schedule. Post the schedule in the classroom and/or tape it to the inside of the desk or student assignment book

Write down key words on the board to aid in note-taking during sections that are "lecture-based."

Provide the student with a legible outline before a lesson/lecture and with legible teacher's notes of lesson/lecture.

Provide this student with a note-taker at all times to record classroom discussions and lectures.

Provide student with a weekly syllabus, in advance, of upcoming week's assignments and lessons. Keep instruction clear and assure that instructions and assignment criteria are always provided in writing (not just out loud) by providing the student with the above requested syllabus and by writing the assignments on the board as they are given to the class.

### **Break the Assignments into Short, Sequential Steps**

Break instructions into short, sequential steps; dividing work into smaller short "mini-assignments," building reinforcement and opportunities for feedback at the end of each segment; handing out longer assignments in segments; and, consider scheduling shorter work periods.

Provide regular guidance and appropriate supervision on planning assignments, especially extended projects that take several days or weeks to complete.

One of the most common things for children with ADD to do is to procrastinate, to miscalculate, and to avoid (unpleasant) tasks until the last minute. This is why close guidance in planning long term projects is so important. A part of the ADD spectrum of symptoms is a sort of a temporal disability where the gauging of time, and how long tasks will take are distorted.

By modeling examples of how to plan, being coached through the planning process, and through consistent practice children with ADD will gain a better sense of how to plan within a timed framework.

The goal of independence will be achieved when appropriate supports are consistently provided for and during all longer projects so the student can gradually develop independence, learn to master time management, learn better to plan ahead, and feel in control and comfortable; and so fall-out of things remembered at the last moment is significantly reduced.

### **Support the student's participation in the classroom**

Give private, discrete cues to student to stay on task, cue the student in advance before calling on him, and cue before an important point is about to be made (example: "This is a major point.").

Allow adequate time for student to answer questions to permit the student time to form a thoughtful answer.

Provide the amount of support and structure the student needs (not the amount of support and structure traditional for that grade level or that classroom/subject).

Identify the students strengths altering the format of a presentation to take full advantage of the strengths (teach "to" the strengths).

As much as possible use high impact visual aids with lively oral presentations to provide a more interesting and novel presentation of lessons.

At all times avoid the use of sarcasm, continual criticism or bringing attention to student's different needs in front of his peers; and recognize that this student will respond significantly better when encouraged and when positive achievements are noticed and mentioned.

### **Classroom and Homework Assignment Adaptations**

Allow the student to begin an assignment and then go to the teacher after the first few problems are done for confirmation that he/she is doing the assignment correctly, and to receive gentle correction or praise.

Encourage the use of books-on-tape to support students reading assignments (The National Library Services provides books-on-tape for individuals with disabilities - including textbooks).

Provide the student with published book summaries, synopses or digests of major reading assignments to review beforehand (example: Cliff Notes for literature studies).

Periodically, if needed, modify classroom and homework assignments (examples: student does every 2<sup>nd</sup> or 3<sup>rd</sup> problem, or have the student use a timer and draw a line across their homework page and the end of 15 minutes of sustained work).

Make a second set of books and materials available for this student to keep a back-up set at home

### **Alter Testing and Evaluation Procedures**

Prior to the test, provide the student with specific information, in writing if necessary, about what will be on the test or quiz.

Provide the student with a practice test or quiz to study the day before the actual test or quiz. (Pre-review)

Allow the student more time to complete quizzes, tests, exams and other skill assessments when needed (including standardized tests) to eliminate possible test anxiety. Information retrieval can be complicated by ADD/LD. When more time is available to complete an assignment, test, quiz or final exam, should it be needed, memory retrieval is improved and test pressure interferes less with the ability to retrieve and express what is known.

The student will inform the teacher of his need for additional time by writing a note on the test to arrange for more time whenever he/she is unable to finish a test in the standard amount of time provided to other students.

Provide the student with other opportunities, methods or test formats to demonstrate what is known.

Allow the student to take tests or quizzes in a quiet place in order to reduce distractions.

Consider allowing this student to use a calculator when it is clear the student understands math calculation concepts.

Always allow this student to use a calculator to check his/her work.

### **Alter the Design of Materials**

Tests should always be typed (not handwritten) using large type; and all duplicated materials must be clear, dark and easy to read. The simpler and less distracting the page, the better. With that in mind, questions that are not a part of the test and are not to be answered should be removed from the student's view.

Whenever possible the instructions should always been next to the questions to which they relate, and test questions should visually stand-out from the test answers (on multiple choice, matching, etc.).

Review the design of the test to assure that the test questions are ordered in a logical, sequential manner (example: test questions should be arranged to progress logically through the material be tested, e.g., Section 1 to Section 2 to Section 3 to Section 4, etc., with no skipping between one section and another).

### **Provide Training and Guidance for Study Skills, Test Taking Skills, and for Time and Organizational Planning Skills Training (Incorporate All of These Into Each Subject Area)**

Provide the student with a regular program in study skills, test taking skills, organizational skills, and time management skills.

assignments; help the student plan how to break larger assignments into smaller, more manageable tasks.

Help the student set up a system of organization using color coding by subject area, especially with materials that need to be stored in a school locker during the day.

Teach the student how to identify key words, phrases, operations signs in math, and/or sentences in instructions and in general reading.

Teach the student how to scan a large text chapter for key information, and how to highlight important selections.

Teach the student efficient methods of proof-reading own work.

Across all subject areas, display and support the use of mnemonic strategies to aid memory formation and retrieval.

Support alternate methods of outlining such as "mind-mapping" or "clustering."

### **Skills Guidance and Support**

Provide consistent coaching from all teachers to support—organizational skills, time management skills training, study skills training, test taking skills.

Designate one teacher as the advisor/supervisor/coordinator/liaison for the student and the implementation of this plan, and who will periodically review the student's organizational system and to whom other staff may go when they have concerns about the student; and to act as the link between home and school.

Permit the student to check-in with this advisor first thing each week (Monday mornings) to plan/organize the week and last thing each week (Friday afternoons) to review the week and to plan/organize homework for the weekend.

Support the formation of study groups, and the student seeking assistance from peers, encourage collaboration among students.

### **Create a Safe Environment for Learning:**

#### **Employ Effective Motivational Techniques for the Student Employ Administration, faculty and counselor initiatives**

Match student's needs and learning style with teachers who have the appropriate attributes to provide the student with the best education and support possible and who know how to create ("engineer") opportunities for academic and social success, can increase the frequency of positive, constructive, supportive feedback, and can identify, recognize, reinforce and build upon the student's strengths and interests.

Recognize EFFORTS the student employs toward attaining a goal and recognize the problems resulting from skill deficits vs. non-compliance.

Look for positives. Provide immediate feedback to the student each time and every the student accomplishes desired behavior and/or achievement - no matter how small the accomplishment.

Create a non-threatening learning environment where it is safe to ask questions, seek extra help, make mistakes and feel comfortable in doing so.

Provide this student with an environment where it is safe to learn—academically, emotionally and socially, give any needed reprimands privately and whenever possible, provide public recognition for student accomplishments, encourage empathy and understanding from faculty, staff and peer group, and do not



Provide clearly stated rules, consequences and expectations that are consistently carried out for all students.

Praise in public, reprimand in private.

### **Parental Involvement**

Teachers must report to the parent any time one of these interventions and/or accommodations seems to be ineffective so the committee can re-convene and modify the plan as needed.

Designate one teacher as the advisor/supervisor/coordinator/liaison for the student and the implementation of this plan, and who will periodically review the student's organizational system and to whom other staff may go when they have concerns about the student; and to act as the link between home and school.

Involve parents in selection of the student's teachers.

Use the student's planner for daily communication with the parent.

Each teacher is to send home the weekly communication sheet at the end of each school week.

Using the weekly communication sheet, inform the parent and/or advisor, in advance, when special or long-term projects are assigned.

### **Teacher Attitudes and Beliefs**

Accept characteristics of ADD/LD, especially inconsistent performance.

Recognize that student with ADD/LD perform at their best in a safe environment—academically, emotionally and socially. Sarcasm, bringing attention to deficits, constant criticism are to be avoided at all times. Children with ADD/LD respond significantly better when they are encouraged and feel safe to make mistakes.

Send student's teachers to in-service workshop.

Provide student's teachers with reading material on ADD/LD.

Instruct the teachers about how stimulant medication works, and avoid any derogatory comments about the student's use of medicine or of the medicine itself.

Recognize that medication is only a part of the answer and does not address a student's comprehensive needs all by itself.

Recognize that no two students with ADD/LD are alike and that there are multiple approaches to working with each ADD/LD student that can and will be different from student to student.

Encourage teachers to be flexible.

Accept poor handwriting and printing.

Do not or stop attributing students poor performance to laziness, poor motivation, or other internal traits.

Recognize that ADD/LD is neurological and beyond the control of the student.

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## Learning styles

There is controversy about learning styles, various intelligences and finding out what students can and cannot learn. The research shows a trend, but many tests are weak predictors of strengths. Of course, even intelligence tests, refined for over 100 years are only screening devices.

What we can recognize is that not all students are good at academics, and can still live productive, highly effective lives and contribute to the richness of society. Is there life beyond readin' writin' and 'rithmetic? Yes, indeed! In Mark Twain's words: *"I have never let my schooling interfere with my education."*

	<ul style="list-style-type: none"> <li>• Gotta touch it to get it</li> <li>• I don't get what you want (I have to see the big picture)</li> <li>• You misspelled the word, stupid. (It needs to be just right so I can think about it)</li> <li>• Just give me the facts, Ma'am</li> <li>• It's not about words</li> <li>• But how do you feel about it?</li> <li>• Could you just write it down?</li> </ul>	<p><b>Definition:</b> Students are smart in a myriad of ways. Some identified gifts include:</p> <p><b>Music/rhythm</b>  <b>Logical/mathematical</b>  <b>Interpersonal</b>  <b>Intrapersonal</b>  <b>Kinesthetic</b>  <b>Verbal/linguistic</b>  <b>Visual/spatial</b>  <b>Naturalist/spiritual</b></p>
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## Learning Differences--NOT Learning Disabilities

by **Thomas Armstrong** <http://www.multi-intell.com/articles/armstrong.htm>

I don't believe in learning disabilities. I realize saying that will probably upset a lot of people. Learning disabilities have become as acceptable to educators as diseases are to physicians.

In my way of thinking, though, education has no place for learning "diseases." Instead of focusing on *deficiencies*--what kids *can't* do--education should be based on *growth*--how kids can learn. But so far, in all the thousands of tests and programs developed in the past 20 years to "remediate" frustrated learners, I've seen very little attention paid to how LD kids can learn and grow.

Mary Poplin, the former editor of the *Learning Disability Quarterly*, noted this omission in a farewell address to her readership a few years ago. The horrifying truth is that in the four years I have been editor of *LDQ*, only one article has been submitted that sought to elaborate on the talents of the learning disabled. . . Why do we not know if our students are talented in art, music, dance, athletic, mechanical repair, computer programming, or are creative in other non-traditional ways? . . . It is because, like regular educators, we care only about competence in its more traditional and bookish sense (Poplin, 1984).

This narrow conception of competence has excluded a broad range of children, who are learning *different*, but who are called learning *disabled*. I did my doctoral dissertation on the strengths of LD children. In the process, I discovered a few things that might surprise you. **I learned that kids labeled "LD" are often non-verbally creative; better than average at visual-spatial tasks; and talented in mechanical, architectural, musical, and athletic pursuits. Some are even highly talented in specific language and mathematical areas.**

Why isn't this information more widely recognized and acted on? One reason, as Mary Poplin points out, is that special education is especially prone to a problem that afflicts *all* public education: Schools have become worksheet wastelands. Classroom teachers spend too much time on paper-and-pencil tasks and not enough time on active learning that engages the total individual. This heavy reliance on dittos and textbooks reinforces a habit of thinking about schoolwork solely as book work. Harvard University's Howard Gardner, author of *Frames of Mind* (1983), had it right when he said that there at least seven different kinds of intelligence and that our schools are only dealing with two of them: linguistic and logical-mathematical intelligence. In other words, the child who reads, spells, and

computes, and reasons well goes to the head of the class.

**Concentration on only these abilities, though, ignores the dominant strengths of perhaps the majority of children in the classroom.** Many children are not so gifted in linguistic or logical-mathematical intelligence, but may be talented in one or more of five other intelligences: musical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal. All too often, such children are at risk of being unjustly labeled "learning disabled."

The abilities these kids possess simply never get a chance to be displayed in the classroom. There seems to be no room for the young mechanical wizard, or the child who can dance well, or the ham who performs skits brilliantly, or the "street-wise" playground leader who turns "school-dumb" in class. From such students, we created the "six-hour disabled child," who functions below grade level during school hours, but learns away from school.

There are hundreds of thousands of kids like this in our schools. What can we do to help them?

First, we've got to find out what they're good at and help them develop their strengths in the classroom. Ironically, we now do this for gifted children, who are *least* in need of having their talents identified. It is far more critical for "LD" children to have a chance to shine in some area. Gardner's theory of multiple intelligences serves as an excellent framework for finding strengths in *all* kids, including the gifted and learning different.

- The *linguistic child* is word-oriented; a good storyteller and writer; a trivia expert; an avid reader who thinks in words and loves verbal play (tongue twisters, puns, riddles).
- The *logical-mathematical child* is concept-oriented; the little scientist who loves experiments, testing hypotheses, and discovering logical patterns in nature; a good math student.
- The *spatial child* is image- and picture-oriented; a day-dreamer; an artist, designer, or inventor; attracted to visual media; adept at spatial puzzles (Rubric's Cube™, three-dimensional ticktacktoe); creates visual patterns.
- The *musical child* is rhythm- and melody-oriented; may sing or play a musical instrument; sings little songs in class; becomes animated and may study better when music is playing.
- The *bodily-kinesthetic child* is physically-oriented; excels in athletics or fine-motor areas like crafts; achieves self-expression through body action (acting, dancing, mime); touches things to learn about them.
- The *interpersonal child* is socially-oriented; has strong leadership abilities; mediates disputes; can be an excellent teacher; enjoys group games and cooperative learning.
- The *intrapersonal child* is intuitively-oriented; is strong-willed and self-motivated; prefers solitary hobbies and activities; marches to the beat of a different drummer.

Since traditional instruction caters to linguistic and logical-mathematical learners, kids with strengths in the other five areas of intelligence aren't ordinarily taught according to their most natural ways of learning. Sitting quietly in classroom is totally against the natural inclinations of bodily-kinesthetic children, who need to move in order to learn and who may thus be considered "hyperactive" (and unjustly medicated). Spatial children, who need vivid images and pictures to learn, are apt to be classified as "Dyslexic" because they are dragged to quickly into the world of abstract number and letters.

*Such children seldom learn well in conventional classrooms* and usually they continue to fail in remedial programs, which simply administer more concentrated doses of the same teaching approaches that were wrong from the start. On the other hand, if we were to give learning different kids *regular classroom instruction* appropriate to their native intelligences, we might not have to shop them out to special education in the first place. Here are some examples of how teacher in both special and regular education classes can adapt their teaching to Gardner's intelligences:

- Even though *reading* is a linguistic act, it's possible to structure a reading program for spatial children around color (Word in Color™ is one such program) or to build in music, movement, social cooperation, and independent reading to reach other intelligences.
- In *math* class, the logical-mathematical child is in his element. The linguistic child is safe, too, as long as problems are explained in words. Teachers need to make a conscious effort, though, to connect math with the other intelligences.

I taught multiplication tables musically by singing them to a twelve-bar blues melody and spatially by telling kids a vivid story about a man names Mr. As-Much, who had sons named Just, Twice, and Thrice; whatever Thrice-As-Much touched tripled in quantity. I taught the threes tables kinesthetically by having the class count to 30, clapping (or jumping or raising their arms) on every third number. Cooperative learning or math games assisted the interpersonal learner, while the intrapersonal learner learned best through a self-paced instruction book or computer program.

• Typical methods of learning *spelling* words include copying the word several times (a linguistic approach) or applying spelling rules (a logical-mathematical method based on regularities). Spatial approaches might include making pictures out of words (putting rays around the word "sun," for example) or mentally inscribing them on an imaginary blackboard. Kinesthetic learners might trace the words in clay or stand up when the vowels of a word are spelled. For musical learners, spellings can be sung or chanted (perhaps going up an octave to emphasize vowels or silent letters). Seven-letter words, for instance, work really well to the tune of "Twinkle, Twinkle Little Star"--try it with "another."

So you see, many roads lead to the same instruction objective if only we are willing to take them. Many teachers have objected that they can't teach to several learning styles with so many children in their classes, but the kinds of activities I have mentioned can be carried out with large groups of children.

All a teacher has to do is teach seven different ways on seven different days. On Monday, teachers can begin with a linguistic approach--God help us, with a worksheet if they really have to. On Tuesday, they can bring in imaginative or art activities to reach the spatial learners. On Wednesday, the class might practice the skill through energetic physical activity on the playground or more restrained physical activity in the classroom. On Thursday, they can relate the skill to music, and on Friday, to a computer program, which will appeal to the logical-mathematical minds. The next Monday, games will reach the sociable, interpersonal learners. On Tuesday, a choice of different activities caters to the intrapersonal learner.

Thus at the end of a seven days, the teacher would have presented the skill through every child's strongest intelligence and bolstered children's less-developed intelligences as well. Learning centers can also be keyed to this multi variant approach to learning. Teachers can arrange their classrooms to include a book nook (appealing to linguistic intelligence), a math lab and/or science center (logical-mathematical), a round table for games and discussions (interpersonal), a carpeted open space for movement activities (bodily-kinesthetic), a listening lab (musical), a partitioned quiet space (intrapersonal), and art media center (spatial).

Remember when I said I didn't believe in learning disabilities? I suppose that if you pressed me, I'd admit they so exist. But all of us have them. Some of us have dyscalculia. In other words, we can't whistle a tune. Maybe you or someone you know has dyspraxia, which can lead to a tendency for one's legs to get all twisted up on the dance floor. Other may have dyslexia, which is just Latin bafflebag for "trouble with words."

**What I'm most concerned about, however, is "dysteachia,"** the unwillingness to adapt instruction to a broader concept of learning. Dysteachia threatens to banish many children to a barren future in special education classrooms. The only way to combat dysteachia is for educators to reconceptualize learning disabilities to include the strengths of millions of kids who will otherwise languish in remedial programs. Aren't we ready to at last let learning different kids shine in their own way?

Notes:

1. Mary Poplin, "Summary Rationalizations, Apologies, and Farewell: What We Don't Know About the Learning Disabled," *Learning Disability Quarterly* 7 (Spring 1984): 133.

2. Thomas Armstrong, "Describing Strengths of Children Identified as 'Learning Disabled' Using Howard Gardner's Theory of Multiple Intelligences as an Organizing Framework" (Ph.D. diss., California Institute of Integral Studies,

1987).

3. Howard Gardner, *Frames of Mind* (New York: Basic Books, 1983). See also M. Scherer, "How Many Ways Is a Child Intelligent?", *Instructor* (January 1983)

**Acquiring better logical and verbal skills** - bottom line - they need to be useable as they are taught --- the student needs to feel ownership and needs to be able to apply them and celebrate their usefulness.

Six major principles for maximizing teaching effectiveness:

- 1) Stick to big ideas that provide broad concepts and understanding that is most likely to be needed and valued in adult life
- 2) Sequence teaching in ways that are easy to follow and include the big picture, followed by explicit steps for success, then rounding back to the big picture --- use visualizations when possible
- 3) Help students see how the concepts fit into life, providing a sense of ownership, and when students get excited, help them succeed with scaffolding that permits ongoing success
- 4) Use organization and strategic planning that can be made transparent for the student and help them gain a sense of ownership in that organization -- and how new concepts hook to old successes and constructs
- 5) Prime necessary knowledge for future concepts and re-teach, review and use older concepts so students have access to ideas from the past as well as "hooks" for future ideas. Memory may need to be tickled often.
- 6) Provide immediate and ongoing ways for the knowledge to be utilized and set up sessions that provide opportunities for application, being judicious about adequate, distributed, cumulative and varied opportunities to review and apply knowledge.



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## Memory issues

	<p>"What did you want me to do?" "What homework?" "For every action there is an equal and opposite reaction." "What does that mean to me?" "I know you are supposed to invert the divisor, but then what?" "Yeah, I'm supposed to bring my book to class, but I can't get in my locker." "You mean today's the test?"</p>	<p><b>Definition:</b> There are several parts of the brain involved in remembering words, concepts, recall of spatial and kinesthetic areas.</p> 
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**Sensory store - all the information that is coming in and bombarding us from our senses**

**Working memory (usually about seven bits of data at a time) serves two roles, to sort out what is important from the sensory store and retrieves data from the memory store to solve problems**

**Short term memory holds on to data for brief periods of time. It may get put into long term memory or just dropped from thought - often no longer than 2 weeks of recall is available.**

**Long term memory is all the bits and pieces stored in the brain that is retrievable. Some memories come from our earliest cognitive moments.**

The steps to acquire more memory, long and short term

Sometimes it is about **memory skills**. Here are some ideas for strengthening basic facts. Garnett, 1998. [http://www.ldonline.org/ld\\_indepth/math\\_skills/garnett.html](http://www.ldonline.org/ld_indepth/math_skills/garnett.html)

### **Interactive and intensive practice with motivational materials such as games**

... attentiveness during practice is as crucial as time spent

### **Distributed practice, meaning much practice in small doses**

... for example, two 15-minute sessions per day, rather than an hour session every other day

### **Small numbers of facts per group to be mastered at one time**

...and then, frequent practice with mixed groups-

### **Emphasis is on "reverses," or "turnarounds" (e.g., $4 + 5/5 + 4$ , $6 \times 7/7 \times 6$ )**

...In vertical, horizontal, and oral formats

### **Student self-charting of progress**

... having students keep track of how many and which facts are mastered and how many more there are to go

### **Instruction, not just practice**

... Teaching thinking strategies from one fact to another (e.g., doubles facts,  $5 + 5$ ,  $6 + 6$ , etc. and then double-plus-one facts,  $5 + 6$ ,  $6 + 7$ , etc.).



## Acquiring and practicing for expertise


- 1. Increase Attention.** Students will not remember something that they did not pay attention to in the first place. Be sure your students' memory problems are not really attention problems. Use strategies for enhancing attention, such as intensifying instruction, teaching enthusiastically, using more visual aids and activities, and reinforcing attending.
- 1. Promote External Memory.** Many things that need to be remembered can be written down, a practice known as "external memory." Practices such as keeping an assignment notebook and maintaining a student calendar can be helpful in remembering to do things. Unfortunately, external memory is usually of little use (ethically, anyway) on tests.
- 2. Enhance Meaningfulness.** Find ways to relate the content being discussed to the student's prior knowledge. Draw parallels to the students' own lives. Bring in concrete, meaningful examples for students to explore so the content becomes more a part of their experience.
- 3. Use Pictures.** Pictures can provide a memory advantage. Use pictures on the chalkboard or on the overhead projector. Bring in photographs or other illustrations. Show concrete images on videotape, when appropriate. If pictures are simply unavailable, ask students to create images, or " pictures in their heads."
- 4. Use Mnemonic devices.** Teach songs, jingles, key words, visualizations, make parts out of concepts and then make whole concepts out of parts..... for example the Great Lakes can be remembered using **HOMES** - Huron, Ontario, Michigan, Erie, Superior
- 5. Minimize Interference.** Avoid digressions and emphasize only the critical features of a new topic. Make sure all examples relate directly to the content being covered.
- 6. Promote Active Manipulation.** Students remember content better when they experience it for themselves (Scruggs, Mastropieri, Bakken, & Brigham, 1993). For example, rather than lecturing the class on the effect of weak acid (such as vinegar) on calcite, allow students to place calcite in a glass of vinegar and see for themselves.
- 7. Promote Active Reasoning.** Students remember better if they actively think through new information, rather than simply repeating it. For example, rather than simply telling students that penguins carry their eggs on the tops of their feet, ask students why it makes sense that penguins would carry their eggs on the tops of their feet.
- 8. Increase the Amount of Practice.** Students remember information better if they have practice using it more frequently. Use lots of review in your teaching; do not simply finish one topic and then never mention it again. Remind the class, and have students practice previous information frequently. - from Mastropieri & Scruggs, 1998, Enhancing school success with mnemonic strategies [http://www.ldonline.org/ld\\_indepth/teaching\\_techniques/mnemonic\\_strategies.html](http://www.ldonline.org/ld_indepth/teaching_techniques/mnemonic_strategies.html)



### Building confidence and relationship actually supports memory work

- Increase hope and belief in ability to learn
- Feel good about self and blood is in working part of the brain
- Once memory starts to work, feeling of efficacy builds recall capacity
- Sense of hope lowers anxiety level and increases potential for recall

## Organization

	<p>I know it's in here somewhere."          "I'm sure I did it. Didn't I already turn it in?"          "No, I don't have my book. Somebody took it out of my locker, alright?"          "Today? The test was today?"</p>	<p><b>Definition: Executive function is required for the brain to sequence, store and recall information. Most youngsters with learning issues have their greatest difficulty in this area.</b></p>
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### Skills that contribute to organizing school work

Sometimes, students can learn to do this, but most often, the majority of change needs to occur in the teacher and educational practices. Assisting and monitoring students will pay off. Remember to do this in a matter-of-fact way, free of recrimination, nagging, belittling, anger.

### Assignments and homework

1. Give assignments at the beginning of class rather than at the end of class
  - a. Use an assignment notebook.
  - b. Individualize assignments to meet specific target skills that are emerging rather than at the frustration level..... PLEASE remember to send practice work that is really practice.
  - c. Teacher can double check and initial notations before going for the day.
2. Fax assignments to parents who want to know the work for the week or set up a list serve of family emails and have a student write and send out a general message for the day.
3. Record the general homework for the night on a class telephone.
4. Have a student post the homework for the day on the door as school closes for the evening, then students who wish can come back and check if it is forgotten.
5. Start homework during school and provide opportunities throughout the day to support and help students as they work on assignments.

### Books and supplies

6. Have two sets of books so students can keep one set at home and still have some in the classroom.
7. Build community by having students share books, supplies, materials without stigma.
8. Have a set of supplies in the classroom available to everyone and when practical, ask students to bring in extras for everyone.

### Note taking

9. Start with a T line for learning to take notes

#### Things I like to do

---

Inside	Outside
I	
I	
I	
I	

#### Early Americans

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People	Dates	Events
I		I
I		I
I		I

10. Designate a note taker for the whole class
11. Use some form of carbon paper so a student can take personal notes and share with someone who needs them written out
12. Give students guided lecture notes - may even begin with blanks to fill in and little by little, move from telling them what goes in the blank to having them recognize and write it in.
13. Allow students to make a video or audio tape of the lecture and take it home for study
14. Teach word webs to increase visual and pictorial representations for students who remember the whole rather than the parts.
15. Teach underlining using colored highlighters and suggest writing in margins for key concepts.

#### **Rituals and structure**

16. Set times during the day when very specific occurrences can be counted on. For some students, this provides the greatest safety and allows them to maximize self-control.
17. Provide students with responsibility for keeping track of time for self and class, as appropriate
18. Provide cues several minutes before changes so students can prepare at their own pace and not be upset by topics they have not completed.
19. Help students develop rubrics and self management checklists to help them feel in control and see how the day is organized.
20. Use wall charts to show progress in subjects, how material integrates with tests, state standards, etc.


#### **Brain ticklers and memory organizers**

21. Memory, attention, word-finding, problem-solving, or other cognitive functions may come and go. It helps if students have time to "locate" these and then respond rather than needing to raise their hands and have spontaneous recall.
22. **Cognitive Fatigue** - Recognize and honor the fact that this work is particularly challenging and students may get fatigued from doing mentally challenging work over long periods of time. Breaks, snacks, and asking questions in the early part of a subject will help the student give a good performance.
23. **Attention and concentration** - As the difficulty of the task increases, problems with attention and concentration are more likely to occur. Problems often occur when students are asked to concentrate on more than one thing.
24. **Processing speed** - Many youngsters with LD experience an overall slowing in how fast they can process information. Some people describe this situation as *my brain slows down* or *there's a lag between my thoughts*.
25. **Problem Solving** - Sometimes students have increased difficulty solving problems in new situations. When confronted with a problem, people with this difficulty will tend to try the same solution over and over, rather than generating new solutions, or they may have difficulty making decisions because it is hard to identify which of a number of choices is *best*.
26. **Memory** - Memory is a complex neuropsychological function. There are at least two separate systems for memory. *Procedural memory* is the memory for how to do things. This almost always remains intact so a student may forget to do something, but you will not forget how to do it. *Semantic memory* is the memory for events, words, or things. There are three parts to semantic memory. First, you must be able to perceive and attend to information. If you cannot attend to information, because of problems with attention or concentration, you will not have a chance to encode or learn it, which is the next step in memory. Finally, you have to be able to retrieve or recall it when you need it.
27. **Language** - The types of language problems most commonly seen are those related to language fluency. These include increased word-finding difficulty (where either students can't find the word they want to say, or where they say the wrong word accidentally) and problems with naming, the ability to accurately recall uncommon words or newly learned material.

28. **Visual Spatial Skills** - Sometimes, student with cognitive deficits find themselves getting lost more frequently, losing items more frequently, or having trouble understanding visual-spatial information like maps, diagrams, and charts.
29. **Organizing tool** - plastic pockets are a great aid to learning! You can write on them in felt pen – with the worksheet untouched inside – and then wipe them clean. They keep work looking good and various parts of a project and reference materials can be filed in them.
30. **Plastic overlays** - Some students may benefit from colored plastic overlays thought by some to enhance symbols and to give depth to printed page. It also can keep some of the letters from "jumping around." Graph paper that has a mild green or lavender hew may also help students organize math problems and keep numbers in line.
31. **Writing alternatives** - For the student who has difficulty writing, a battery cassette recorder could be provided for the student to dictate answers to tests or written lessons. Give them alternatives as to how to produce written work - sometimes we will be their secretaries - loan a lap top - use a Dictaphone.
32. Color coding subjects on timetables to correspond with the color of subject files - text books put color tabs on text books e.g. math -yellow, geography-green. This may make it easier to prepare materials for the next day and bring the right things to each lesson.
33. Generally speaking – the least effective use of time is rewriting and redoing drafts.
34. Allow students to use highlighters to mark key points/words/instructions and use pictures as triggers in the margins of books and notes. Marking a text book in this way can really aid learning and is an argument for a personal copy that is retained permanently by the student.
35. Students with learning disabilities need a lot of structure. Lists of the day's routine and expected behaviors can help.
36. Allow the student to experiment with different types and shapes of writing tools to make a mark with the least amount of hand manipulation.
37. Encourage the use of computers to help the student get over the hurdle of producing text, but remember that not all students relate to technology.
38. Assistive technology provides programs that will scan and read a page of text to the student within 30 seconds of starting – voice recognition systems that take dictation – predictive systems for poor spellers.
39. Part of the LD profile is that the student's work will be inconsistent and erratic so it is helpful to understand the intermittent nature of pupil's performance and attention.
40. For students with difficulty reading, or the very slow reader, the "read along technique" with taped textbooks and workbooks might be used in the classroom, at home, and in the resource room. Talking books may be acquired from Recording for the Blind and Dyslexic. <http://www.rfbid.org/>
41. Students with spatial awareness difficulties might find it useful to work "BIG" for a while.
42. Make sure the student is always provided opportunities for physical activities. Do not use recess as a time to make-up missed schoolwork. Do not remove daily recess as punishment.

43. Designate one teacher as the advisor/supervisor/coordinator/liaison for the student and the implementation of the student's plan, and who will periodically review the student's organizational system and to whom other staff may go when they have concerns about the student. This teacher would also act as the link between home and school.

## Social intelligence and cultural behaviors

	<p>"He started it! I just gave him what he was asking for."          "I didn't steal. He has a bunch and I just took one red one."          "I was just teasing when I said I'd break his neck. Golly!"          "Why do you always say I pick and fiddle? I hate that."          High alerting and anger/ anxiety are common, along with irritability, snappish responses and lack of insight.</p>	<p><b>Definition:</b> Actions do not fit with expected norms and often create tension and negative responses from others based on invasion of space, lack of empathy and awareness of others.</p>
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Many students with special needs seem unaware of how actions affect others. Some of this is due to emotional and social immaturity, but of course, there are many root causes. Social and emotional intelligence can be taught to students so they are able to make and keep friends, participate successfully in the classroom, in sports and feel supported and accepted.

<p>These are common symptoms that go along with the social immaturity and are documented in the literature</p>	
<p>Possesses immature social skills          Misinterprets social and nonverbal cues          Is victimized often by peers, adults          Uses social conventions (manners) improperly          Is too trusting of others motivations and sincerity</p>	<p>Chooses less socially acceptable behavior patterns          Makes poor decisions          Cannot predict consequences of actions, outcomes          Experiences rejection from peers          May be pushy or shy, withdrawn, and distractible</p>
<p><b>Behavioral Style</b></p>	
<p>Exhibits excessive movement; hyperactive          Seems poorly motivated          Over reliant on teacher for class assignments          Poor motor coordination and spatial relation skills</p>	<p>Is Impulsive          Is disorganized          Does not pay attention during lectures; distractible          Loses focus repeatedly, impulsive</p>

Acquire these skills:

Self-awareness	Management of feelings	Decision making based on consequences
Manage stress	Self control	Personal responsibility
Empathy	Communicating	Boundaries for self and others
Group dynamics	Conflict resolution	Reflection, synthesis

### General Courtesy to model for youth

- Don't assume that the student is not listening because you are getting no verbal or visual feedback.
- Constructively express and control feelings, dealing positively with anger and anxiety.
- Don't assume that you have to explain everything to students with learning disabilities. They do not necessarily have a problem with general comprehension. Especially do not speak in a slow, labored or loud manner.
- Do check for understanding when you discuss ideas with students.
- Consult with the special education specialist to obtain help in understanding the specific nature of the learning disability for each student.
- Never assess a student's capabilities based solely on their IQ or other standardized test scores.
- Give student with learning disabilities priority in registration for classes.
- Realize that students often do not recognize consequences, so discussions about being foolish not to see something coming or resulting is nearly a form of bullying students.
- Allow course substitution for nonessential course requirements in their major studies.
- A student may have documented intelligence with test scores in the average to superior range with adequate sensory and motor systems and still have a learning disability.
- Learning disabilities often go undiagnosed, hence teacher observation can be a major source of identification.
- Bring student's attention to those who are living successful lives with a similar disability to that of the student.

- Accept responsibility for own feelings, emotions and actions rather than blaming student acts.
- Remember to model seeing the perspectives of others and empathizing and understanding them.

## The ABC's of Raising Consciousness - Becoming Self Aware

This is an excellent list of the skills we can help students acquire as they learn to understand themselves and help build an excellent learning community. Copyright 2002 John at <mailto:john@higherawareness.com>

- **AWARENESS** - Pay attention. Observe life. Accept it as it is. Seek deeper causes and potentials.
- **BEAUTY** - Create and enjoy beauty, art, music and poetry. They open the door to the Soul.
- **CONCENTRATION** - Tame the mind. Focus your attention. Expand your thinking.
- **DISCRIMINATION AND DISCERNMENT** - Listen and draw out your own inner guidance.
- **ESSENCE** - Seek the highest qualities, meaning and essence in all encounters.
- **FORGIVENESS** - Release all guilt, anger and resentment. Fill your past with love.
- **GROUP WORK** - Cultivate cooperative, supportive and inspiring relationships.
- **HUMOUR** - Lighten up. Treat life as a holiday. Don't be so serious.
- **IMAGINATION** - Cultivate more creativity, ideas and ideals. Seek meaning from symbols and dreams.
- **JOURNAL** - Think it & ink it. Capture life in words for more clarity & insights.
- **KNOW YOURSELF** - Be your authentic self. Know your blocks and gifts.
- **LET GO** - Be open to experience life. Detach. Allow new perspectives.
- **MEDITATION** - Learn to relax, concentrate, reflect and contemplate.
- **NEEDS** - Know the basic needs behind your desires and fears.
- **OVERCOME BLOCKS** - Heal yourself physically, emotionally and mentally.
- **PURPOSE** - Discover and pursue what most wants you in life. Aspire higher.
- **QUESTIONS** - Ask! Ask! Ask! Questions are always answer.
- **RELAX** - Seek stillness. Revitalize yourself. Be calm in chaos.
- **SERVICE** - Joyfully share your gifts and talents with others.
- **TENSION** - is part of the change process. Be willing to endure the void.
- **UNIVERSAL LAWS** - Align with the big picture, highest truths and natural laws.
- **VALUES** - Deepen and express the qualities and virtues you stand for.
- **WILL** - Develop discipline, courage and power. Set intentions. Follow through.
- **EXAMINE MOTIVES** - WHY do you do things? Uncover fears and aspirations.
- **YES** - Say yes to balance, being in nature, expressing your uniqueness and joyful compassion.
- **ZEAL** - Be passionate about life. Appreciate, love, laugh and be joyful.





## Testing and Assessments - yes, I can take them

Succeeding on a written test requires several types of activities. To succeed, students need to learn and practice these skills with adequate success.

- How to read a section of text, not only decoding it, but able to decipher the meaning and hold on to it and make meaning with it
- Have an adequate store of vocabulary words on grade level, and the skills to "guess" at a word rather than losing concentration if an unfamiliar word is part of the reading.
- How to move back and forth between the test and answer key, keeping track of placement and marks.
- Methods for refocusing if a question stumps them or gives them a sense of hopelessness.
- How to evaluate questions if they will be guessing, and eliminate silly answers.
- Checking answers to be certain all are filled out.



### Developing General Classroom Exams

- Avoid overly complicated language in exam questions and clearly separate items when spacing them on the exam sheet.
- Consider other forms of testing (oral, hands-on demonstration, open-book etc.). Some students with learning disabilities find that large print helps their processing ability.
- Consider the use of illustrations by the students with learning disabilities as an acceptable form of response to questions in lieu of written responses.
- Eliminate distractions while students are taking exams.
- For students with perceptual problems, for whom transferring answers is especially difficult, avoid answer sheets, especially computer forms. Allow them to write answers (check or circle) on the test (or try to have them dictate their responses on a tape recorder.)
- For students who have reading difficulties, have a proctor read the test to the student.
- For students with writing difficulties, have someone scribe the answers for them or use a tape recorder to take down the answers.
- Gradually increase expectations as the students with learning disabilities gains confidence.
- Grant time extensions on exams and written assignments when there are significant demands on reading and writing skills.
- If distractions are excessive, permit the students with learning disabilities to take examinations in a separate quiet room with a proctor.
- Provide study questions for exams that demonstrate the format along with the content of the exam.
- Review with the student how to proofread assignments and tests.
- Do not test material just presented or outcomes just produced, since for the students with learning disabilities, additional time is generally required to assimilate new knowledge and concepts.
- Permit the students with learning disabilities the use of a dictionary, thesaurus, or a calculator during tests.

<http://www.as.wvu.edu/~scidis/learning.html#sect5>