

Strategies –

The following are ideas teachers, case managers and support staff from our district have given to teach skills, differentiate instruction, and differentiate the assessment of information. They are gained from various classes, readings, workshops, and experience. Although it started as specific strategies for students with learning disabilities, contributors gave information that many times benefits not only the learning disabled student, but also the general population.

The first step in using strategies is to motivate the learner by discussing the strategy with the student, discussing its usefulness and application to specific tasks. A general procedure to follow when using strategies is:

- 1) Description of the strategy
- 2) Model the strategy for the student for preview purposes
- 3) Verbal Rehearsal – teacher, student use strategy together
- 4) Guided practice – student practices using strategy, teacher gives feedback, no demand task
- 5) Fading – student tells himself how to use strategy while fading out the obvious cues
- 6) Independent practices while using content materials
- 7) Generalization while using varied materials
- 8) Feedback – teacher and student talk about the effectiveness of the strategy

Strategies

I. Math Computation

- In general, elementary students can hold 7-9 new facts in short term memory. Facts need to be rehearsed many times to go to long term memory. Students with learning disabilities usually require more repetition and review than ones without disabilities and additional strategies and cues to help them integrate and remember information.

Lining up numbers and other visual weaknesses

- Use large square graph paper to help students line up numbers
- Rotate lined paper vertically and have students write number problems vertically
- Fold paper into sections to help focus on one problem
- Highlight place value columns (ones-tens-hundreds) for multi-step regrouping. Be consistent in color you use for each column (i.e. ones always red)
- Eliminate having student transfer numbers from one place to another

General

- Before students begin to compute, have student circle or highlight the sign and then touch the sign and say the operation
- Unless a student shows mastery of a skill, don't send it home for homework
- Relate information to personal experiences
- Break down task into its components to see where difficulty lies – Make sure preliminary steps are secure before moving on to new step
- Provide more “white space” on paper – fewer examples
- Write the numbers larger with plenty of room in between numbers – especially when borrowing is required
- Multisensory drill and practice of facts – have student write flash cards – practice by having student say while tracing over number problem (3X2) – guess answer – turn over and check;
- Trace number problem in sand – do one set of numbers at a time
- Lay cards on table with answer on back – (5X3) – Put cards in the same place on the table each time you practice that number fact (visual memory)
- Estimating – underline the place value you are estimating to – draw an arrow to the column
- Dividing – Underline on the division sign where the first number should go -
- Use real items as in coins whenever possible
- Weak decoders – read directions and problems orally
- Many students are visual and tactile learners – use manipulatives whenever possible - this can be included in a student's IEP for state testing

II. Math Problem Solving

- Allow student to use a calculator/mathematics tables/number lines for problem solving
- Have a list of cue words available for students that indicate an operation – have student underline those words in math problem as they read the problem
- Language based learning problem – give student a cue card with mathematical process written out – allow student to use it to consistently refer back to
- Encourage student to draw a picture of the problem
- Give students a notebook - Type out 5 problems for the week with information related to the students' situations (Yankees – Bergenfield) – Have students choose one problem of the 5 to work on each day – They can ask another student for help Student has to cut problem from worksheet – attach to notebook – Draw a picture – Write a number sentence – Solve – Student needs to finish 5 during the week in any order

III. Spelling

- Allow students to tape a vowel with picture association tape on desk to refer back to when reading or spelling

- Teach keyboarding skills – students with a disability in spelling will always have difficulty with spelling – teach spell check – for a student with severe spelling weaknesses, besides limiting the number of words the student is responsible for, you may decide to have student use the computer to write words and use spell check to correct
- Some students have difficulty processing the sounds of letters – Have students extend the sound of the letter for a few seconds until they process it (b aaaaaa t)
- Don't count or minimize the amount spelling counts in writing assignments
- Use word banks for tests
- Tracing – lightly write information and have student write over the materials – student gets a clear copy without practicing incorrect spelling and gets practice in small motor movements
- Copies of notes
- -multisensory approach to practicing spelling words – have student write words on 3X5 cards – trace the word with their finger and read the word – turn the card over and spell the word – check to see if the spelling is correct
- Rehearsal Strategies – rehearse spelling words out loud – the more times that a person rehearses a word out loud the greater the probability of recall (Rundus and Atkinson, 1971)
- Provide Franklin Speller for checking spelling
- Provide a handbook with most used words in alphabetical order (Curriculum Associates)
- Have student make a list of words connected to a topic and spell these on his or her paper before beginning a task
- Teach students to edit spelling by starting at the end of the sentence and read each word to the beginning of the sentence – helps student focus on the particular word

IV. Writing

- Directly teach writing skills Example: The story needs a setting, a description of characters with their names, etc.
- Give students a checklist to edit writing content as well as punctuation
- Break down parts of story - Where does your story start? Use the 5 senses to describe it relying mainly on what you want the reader to see.
- Provide a writing resource handbook – e.g. lists of adjectives and adverbs that they can keep in their notebook and refer back to when writing (see attached worksheets); homophone sentences (see attached worksheets)
- Emphasize student's oral expressive language – have student tell the story to another person and have them write it down – Have student copy or type
- Teach students to use transition words e.g. First, Then, Next when describing action and provide a list of transition words; For more details, break the action into smaller events.
- Teach a method for writing – Transition – Action – Details
- Every story has a setting- readers like to get lots of details on where something occurs
- Feelings – Every “who” in your story has feelings. Help your audience know what they're feeling

- Attributes – every person, place, or thing in your story has attributes e.g. shape, size, color
- Look for a good idea when writing – Is there: Something you have strong feelings about? Something you know a lot about? Something you can describe in great detail? Something your audience will be interested in? Something your audience will feel was worth reading?
- **Punctuation** –
- Early Grades – Victoria E. Greene and Mary Lee Enfield Framing Your Thoughts - Put a paragraph on oak tag – Read the paragraph to the class. Have the students read it together using multisensory reactions to the print – Capital letters – Clap over head; Periods – right hand hits into left hand open; Commas – hands together over head and wiggle up and down; Colons – 2 fingers point out to eyebrows; Question mark – raise shoulders in shrug; Exclamation point – jump 3 times in place.
- For editing spelling – have students read words backwards from the end of the sentence (helps students focus on one word at a time)
- To edit sentence endings and punctuation, have student keep a list of sentences to refer back to as examples.

V. Reading (Decoding)

- Teach sound-symbol association through songs as in the Sing and Read Program – Judy Dickson
- Have student keep a vowel – picture strip on his or her desk to refer back to associate short vowels and letters
- Some students will always have difficulty decoding reading materials. It is important that they continue to grow their vocabulary base in spite of their difficulty in decoding words. Encourage these students to continue to read magazine articles – comic books – books with a limited number of words on a page and lots of graphics – books on tape.
- Some students are whole word readers – encourage proficiency on the Dolch Word List – carry cards in your pocket with sight vocabulary words on them – When you have a few moments practice the words with the individual students who need this, changing the cards as needed.
- It's difficult to process information when you are struggling to decode it – have students work in pairs where one student can read worksheets and both can share answering the questions.
- Read tests and quizzes orally.
- Tape record worksheets.
- Introduce vocabulary words before reading a story.

VI. Reading Comprehension

- Provide advance organizers
- Give students extra time to reread passages
- Teach SQR3 – survey the chapter or story to be read thinking about chapter headings and graphics – question (I wonder what this area will be about?) - Read the chapter to get the overall picture, questioning yourself as you read –

- Recite the information orally – Review the information – (Use outlines to improve general processing of the information – Use a self- testing method for reviewing the facts (3X5 cards – study sheet (Fold piece of paper over 1/3 – List terms on left and information about the term on the right – self-test by saying the term – guessing the answer – checking the answer)
- Have student fill in a Who, What, When, Where chart as they read a selection to help organize information and remember who characters are (Why, How are teacher driven)

VII. General Learning and Memorization Strategies

- Rehearsal Strategies – studies have shown the practical benefits of rehearsing out loud to enhance storage of information (Rundus and Atkinson, 1970);
 - . maintenance rehearsal – best for information to be learned for only a brief period of time – person simply repeats the information aloud several times
 - . elaborative rehearsal - creating codes by using imagery or other modality-based associative strategies (please excuse my dear Aunt Sally – first letter of order of operations)
- Make sure students understand the value of the information to be learned and relate it to their lives
- Start with small chunks of information that can be learned easily and add on to it reviewing the old information before new materials are added
- Use of songs
- Categorize information
- Visual imagery – When memorizing number facts put a number group on 3X5 cards on the table in same way each time – say the example 3X5 – say answer – turn over card to check – Put cards on the table in the same way each time.
- Acronyms – word is created by using the first letter of each thing to be remembered
- Acrostics – sentence is created to remember information (Every Good Boy Does Fine – EGBDF – used to remember lines of treble staff
- Multi-sensory – Practice by writing, seeing, hearing, checking
- Use lots of graphic organizers and visual presentations so students can process the information at varying speeds
- Maintain a list of strategies and manipulatives that worked the year before with a student and pass on to the next teacher

VIII. Processing Weaknesses

- Advance lesson organizers to identify main points to be learned
- Every 3-6 minutes conduct a brief summary of the information presented – ask individuals in the classroom to identify key points and explain their relevance to the overall topic
- Teaching Practice based on information processing research: 1) Review the major contents from the preceding lesson 2) Present the new lesson by listing key terms, definitions and explain using concrete examples when possible 3) During the new lesson present a maximum of 3-5 new concepts or skills 4) Present these concepts

individually using all available presentation modes (board work, choral rehearsal, teacher comments and questions 5) work in small groups to build cooperative learning 6) Guided practice 7) Homework only when students have been able to perform the specific skills at least twice during in-class work using guided and monitored practice 8) Maintain a clear and consistent routine * key to effective learning is drill and repetition with immediate corrective feedback as required – spaced practice trials yield better learning than massed practice trials.

IX. Attention Deficit

- Circulate around the room, inconspicuously giving directions to those who need it
- Cut down on the amount of work required - classwork, homework and assessments
- Give directions in small, distinct steps, change format of assignment (matching, multiple choice, word banks etc)
- Give visual reminders – target on desk, rules on walls, touching ear means listen, list on board of activities for the day
- Keep a scheduled routine
- Establish eye contact before giving directions
- Have student repeat/explain directions
- Encourage student to utter directions quietly to themselves
- Use behavioral contracts
- Provide before and/or after school tutoring
- Give lots of short praises throughout the day and reward child more frequently (daily or more frequently rather than once a week)
- Have an array of fun activities (board games/video games) on hand as breaks and motivators
- Teach keyboarding skills and allow student to use computer for written work – computer helps focus attention and students don't get as frustrated in revising their work
- Teach self-awareness through a daily report card (e.g. class participation, homework, following class rules, getting along with others)
- Target on desk with a goal student would like to achieve to help student try to focus on goal and importance of learning and staying on task
- Russell Barkley. Ph.D., a renowned expert on developing strategies for attention deficit students writes the following 9 steps in managing ADHD children: 1) Rules and instructions provided to children with ADHD must be clear, brief, and often delivered through more visible and external modes of presentation than are required for the management of children without ADHD. - relying on the child's recollection of the rules as well as upon purely verbal reminders is often ineffective. 2) Consequences used to manage the behavior of ADHD students (both positive and negative) must be delivered swiftly and more immediately than is needed for children without ADHD. Swift, not harsh, justice is the essence of effective punishment. 3) Consequences must be delivered more frequently, not just more immediately, to children with ADHD in view of their motivational deficits. Frequent feedback or consequences for rule adherence seem helpful in maintaining appropriate degrees of tracking to rules over time. 4)

The type of consequences used with children with ADHD must often be of a higher magnitude, or more powerful, than that needed to manage the behavior of other children. (occasional praise or reprimands are simply not enough to effectively manage children with ADHD) 5) An appropriate and often richer degree of incentives must be provided within a setting or task to reinforce appropriate behavior before punishment can be implemented. (powerful reinforcement programs need to be established first and instituted over 1 to 2 weeks before implementing punishment in order for the punishment, sparingly used, to be maximally effective. ****"Positives before negatives" is the rule 6) Those reinforcers or particular rewards that re employed must be changed or rotated more frequently for ADHD children than for those without ADHD, given the penchant of the former for more rapid habituation or satiation to response consequences, apparently rewards in particular. (Change reward menus every 2-3 weeks – you can return to a particular reward over time) 7) Anticipation is the key with ADHD children. (Have students repeat the rules of a new environment before entering that environment – Think aloud – Think ahead is an important message for educators here. 8) Children with ADHD must be held more publicly accountable for their behavior and goal attainment than other children. (child needs to be given more external cues about performance demands at key “points of performance” in school, be monitored more closely by teachers, and be provided with consequences more often across the school day for behavioral control and goal attainment.) 9. Behavioral interventions, while successful, only work while they are being implemented and, even then, require continued monitoring and modification over time for maximal effectiveness. (Behavioral programs need to be continually modified as they lose their effectiveness over time.

X. Cooperative Learning – Helping to get learning disabled students involved - reduce fear and help students focus on learning

- Think-Pair-Share Steps – (This technique was developed by Frank Lyman of the University of Maryland) 1) The teacher presents a question or problem. 2) Students are given think time to think of their responses. 3) Students, as a pair, discuss their responses. 4) Students share their responses in teams or call on a few teams to share their responses. Ask other teams to put their thumbs up if they had a similar response.
- Multiple Intelligences – Draw out the best in students by using varying areas of student strength to show their knowledge and help them learn: Examples: Draw it, Act it out, Skywrite that word, In intervals, stop and have students write a response in their journal
- Thumb It – (Cooperative Learning Strategies for Differentiated Instruction – Dr. Carol O’Connor) Have students respond with the position of their thumb to help determine if a student understands - Teacher asks – “Where I am now in my understanding of _____” Up – I know a lot; Sideways – I know some; Down – I know very little

- Create a mindset so students can chunk on to information – What are some things you already know about (List information on the board) What are some questions you have about...?
- Have partners read cooperative responses as in poems, information on a topic, paragraph
- Use signals instead of verbalization - thumbs up – touch head as a signal to think – hand up and finger on mouth to indicate that students should be quiet (students raise hand to show they're listening)

XI. Differentiation of Assessments

Although the information below is listed according to specific weaknesses, often a common adaptation will benefit several disabilities as in providing word banks, oral testing where language of test can be explained as read, and varying forms of assessment.

- Vary forms for assessment of information – writing – acting out – drawing pictures – giving information orally – projects
- Vocabulary retrieval – use word banks, multiple choice
- Slow learner – difficulty retaining a large amount of information – cut down the amount of information these students are responsible for to the core of the topic
- Dyslexic and are unable to read the test – read the test orally to them
- Limited vocabulary base – simplify the language of the test
- Difficulty knowing what they need to study – Be clear on what the student is responsible for
- Some students have difficulty processing information – cut down on the number of multiple choice answers
- Give students a chance to retest, averaging the two grades
- Change the amount of credit given for a section – e.g. grade essays 20% and multiple choice 80%

Summary: Thank you to all that contributed information for the above teacher and student strategies. This is by no means a complete list of strategies, and please continues to give information you find to the case managers in your building so that the list can be periodically updated. This list has not delved into the psychological effects of going to school with a disability and the difficulty many of these students face every day in maintaining positive self-esteem. In the article Adapting Reading and Math Materials in the Inclusive Classroom (<http://www.teachervision.fen.com>) the writer reports that one of the 8 points to remember is that “successful adaptations do not place undue attention on the student with disabilities or put the student in a potentially embarrassing situation”.

Some general advice from learning consultants are:

- “Treat students with learning problems as respectfully as the gifted student.”
- “Have students buy into long term goals.”
- “Be consistent with the strategies you teach the student – the classroom teacher and the special ed teacher need to coordinate what strategies they are using”

A quote from e.e.cummings presented in Cooperative learning Strategies for Differentiated Instruction (Dr. Carol O'Connor) says it well:

We do not believe in ourselves
until someone else reveals
that deep inside of us,
something is valuable, worth listening to, worthy
of our trust, sacred to our touch.

Once we believe in ourselves, we can risk curiosity, wonder, spontaneous
delight
or any experience that reveals the human spirit.
e.e. cummings