1. What are processing deficits and how do these deficits impact how a child learns?
2. What does specialized instruction look like?
3. What is the difference between specialized instruction and accommodations?
I can identify characteristics of processing deficits.

I can identify specialized instruction interventions to help a student compensate for a processing deficit.

I can state accommodations teachers can use to "level the playing field" for a student's processing deficit.
Specially Designed Instruction means adapting, as appropriate to the needs of the eligible child..., the

- Content
- Methodology or
- Delivery of instruction

- To address the unique needs of the child that result from the child’s disability and
- To ensure access of the child to the general curriculum, so that the child can meet the educational standards...that apply to all children
What does Specialized Instruction look like?

- Specialized instruction is what the teacher does to instruct a child with a disability based upon the child’s unique, individualized needs.

- Adapting
  - Content
  - Methodology
  - Delivery of Instruction
How do we “adapt, as appropriate to the needs of the eligible child”?

- We must **know** the unique, individualized needs of each child
  - Processing profile – and how that impacts learning
  - Educational impact of medical conditions or sensory issues
  - Strengths and weaknesses
    - Academic achievement
    - Language development/communication
    - Functional skills
    - Behavioral and social skills
    - Emotional development
    - Motor skills
We must ask ourselves:

- What makes this child different from typical learners?
- How do I teach this child differently in order to meet his/her needs?

Students receiving special education services need something different from what all students receive in general education.
Watch this in action:

- [http://www.youtube.com/watch?v=O4f4rX0XEBA&feature=related](http://www.youtube.com/watch?v=O4f4rX0XEBA&feature=related)

Source: Richard Lavoie: How Difficult Can This Be? F.A.T. City--A Learning Disabilities Workshop
The Executive Functions

- The Executive Functions act as the brain’s ‘manager,’ helping us organize sensory information and plan appropriate actions.
  - Response Inhibition
  - Emotional Control
  - Sustained Attention
  - Task Initiation
  - Planning/Prioritization
  - Organization
  - Time Management
  - Goal-directed Persistence
  - Flexibility
  - Metacognition
  - Working Memory
Follow all four instructions below to solve each of the three problems.

- Multiply the third number in the first row by the seventh number in the third row.
  - Problem 1
    - 6 5 8 7 4 5 6 8 4
    - 3 2 1 9 5 6 4 2 1
    - 6 5 1 5 1 3 2 3 5

- Add this result to the fifth number in the second row.

- Add to this total ten times the fourth number in the third row.
  - Problem 2
    - 7 5 4 9 9 5 4 4 1
    - 2 5 1 4 8 9 6 6 8
    - 5 7 5 7 5 7 6 8 2

- Subtract the eighth number in the first row from the result.
  - Problem 3
    - 1 2 3 7 6 5 4 3 2
    - 8 4 3 2 1 6 5 4 8
    - 6 5 5 8 1 7 5 12 6

Source:
http://www.pbs.org/wgbh/misunderstoodminds/math.html
See for yourself:

http://www.pbs.org/wgbh/misunderstoodminds/experiences/readexp2b.html
**What can you do?**

**Specialized Instruction**
- Direct Instruction
- Teach social skills
- Teach self monitoring strategies
- Teach organizational strategies
- Teach time management strategies
- Use metacognitive modeling

**Accommodations**
- Use of A.T. – calendars, electronic organizers
- Visual cues
- Visual schedule
- Prepare for transitions
- Break tasks into subtasks with clear deadlines
- Use of timer
- Use color coding
Short-term Memory

- Includes both memory span and working memory
- Most obvious classroom implication – CAN’T FOLLOW DIRECTIONS
- Memory span is important in spelling. Working memory is important in development of written expression, reading comprehension, and math problem solving.
What can you do?

Specialized Instruction
- Summarize information in multiple modalities (Think-Pair-Share)
- Teach mnemonic aids
- Teach the use of drawings to aid memory
- Model/think-aloud procedural steps
- Teach note taking strategies

Accommodations
- Provide note taking assistance
- Reduce spelling penalty on in-class assignments
- Break down tasks into manageable parts
- Allow color coding
- Allow use of checklist for step processes
Long-Term Memory

- Storing information for rapid retrieval later
- Possible problems with input (associating new information with prior learning) and with output (retrieving the information when needed)
- Most obvious classroom indication: POOR TEST PERFORMANCE
- Negatively impacts all subjects; is particularly important in developing reading fluency and knowledge of math facts.
### What can you do?

#### Specialized Instruction
- Teach summarization strategies
- Teach linking strategies
- Teach color coding techniques
- Model/think aloud procedural steps

#### Accommodations
- Provide formula cards, checklists, lists of steps
- Create word banks on appropriate areas of tests
- Use repetition
- Break tasks into manageable parts
- Use graphic organizers
Concentration/Attention

- Difficulty remaining on task
- Difficulty focusing attention in distracting situations
- Disruptive behaviors
- Difficulty organizing materials
http://www.pbs.org/wgbh/misunderstoodminds/experiences/attexp1b.html
What can you do?

Specialized Instruction

- Maintain a structured classroom with defined procedures
- Teach
  - Procedural checklists
  - Visual study guides – color coded
  - Self monitoring charts
  - To do lists

Accommodations

- Allow preferential seating/defined work space
- Use repetition and check for understanding
- Provide study guides
- Use visual timer
- Allow use of formula cards, checklists, graphic organizers, visual study aides, etc.
Auditory Processing

• **Discrimination**
  - Ability to identify differences in sounds
  - Implication in the classroom: POOR SPELLING & DIFFICULTY WITH WORDS THAT SOUND SIMILAR

• **Sequencing**
  - Involves analysis & synthesis of sound(s); breaking words into separate phonemes & blending them together
  - Implication in the classroom – WEAK PHONOLOGICAL AWARENESS.

• Auditory processing is most important in reading and writing up to grade 3.
Auditory Processing – Try This

Source: www.pbs.org/wgbh/misunderstoodminds
# Sound It Out! (an activity from *Language! Trainer Training*)

<table>
<thead>
<tr>
<th>Read It!</th>
<th>Hint</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SHOCKED CUSSED TOE</td>
<td>person</td>
<td>Jacques Cousteau</td>
</tr>
<tr>
<td>2. SAND TACKLE LAWS</td>
<td>fictional character</td>
<td>Santa Claus</td>
</tr>
<tr>
<td>3. MY GULCH HOARD UN</td>
<td>person</td>
<td>Michael Jordan</td>
</tr>
<tr>
<td>4. MOW BEAD HICK</td>
<td>book</td>
<td>Moby Dick</td>
</tr>
<tr>
<td>5. TALL MISCHIEF HER SUN</td>
<td>person</td>
<td>Thomas Jefferson</td>
</tr>
<tr>
<td>6. CHICK HE TUB AN AN US</td>
<td>product</td>
<td>Chiquita Bananas</td>
</tr>
<tr>
<td>7. THOUGH TIGHT AND HICK</td>
<td>thing</td>
<td>The Titanic</td>
</tr>
<tr>
<td>8. AISLE OH VIEW</td>
<td>phrase</td>
<td>I love you</td>
</tr>
<tr>
<td>9. TUB RAID HEAP HUNCH</td>
<td>TV show</td>
<td>The Brady Bunch</td>
</tr>
<tr>
<td>10. CARESS TOUGHER CLUMP US</td>
<td>person</td>
<td>Christopher Columbus</td>
</tr>
<tr>
<td>11. DOCKED HEARSE WHOSE</td>
<td>person</td>
<td>Dr. Seuss</td>
</tr>
<tr>
<td>12. THUMB ILL KEY WAKE OWL LICKS HE</td>
<td>place</td>
<td>The Milky Way Galaxy</td>
</tr>
<tr>
<td>13. AGE ANT HUB BLOWS HEAVEN</td>
<td>fictional character</td>
<td>Agent 007</td>
</tr>
<tr>
<td>14. THESE HOUND DOVE MOO SICK</td>
<td>movie</td>
<td>The Sound of Music</td>
</tr>
<tr>
<td>15. BUCKS SPUN HE</td>
<td>fictional character</td>
<td>Bugs Bunny</td>
</tr>
</tbody>
</table>
What can you do?

**Specialized Instruction**
- Use multisensory approaches to teach decoding, spelling
- Preview new vocabulary
- Teach students to use strategies and A.T. devices
- Use manipulatives
- Model use of graphic organizers
- Teach memory strategies

**Accommodations**
- Note taking assistance
- Simplify oral directions
- Gain student’s attention prior to delivery of information
- Pair visual and auditory cues
- Minimize distractions
- Break tasks into sequential steps
Visual Processing

• **Discrimination**
  - Ability to perceive visual patterns.
  - Most obvious classroom indication – DIFFICULTIES WITH COLOR, SHAPE, SIZE, AND DIRECTION
  - Can negatively impact *letter recognition* in reading and *letter formation and word spacing* in writing.

• **Sequencing**
  - Putting visual information in order.
  - Most obvious classroom indication – *SKIPPING LINES IN READING*; *NOT STAYING IN CORRECT COLUMN IN MATH*
Visual Processing – You Try It

- reading decoding.pdf
- Auditory and Visual.docx

Source: How Difficult Can This Be?, A Learning Disabilities Workshop; Richard D. Lavoie, © 1989.
What can you do?

Specialized Instruction
- Use active verbalization for best memorization
- Teach strategies for self-questioning and self-monitoring, verbalizing each step
- Teach use of checklists for math processes
- Implement parts-to-whole verbal teaching approach

Accommodations
- Provide note taking assistance
- Reduce penalty for spelling on in-class assignments
- Color code information presented visually
- Provide reading guide
- Increase white space
Difficulties with fine and gross motor tasks and with tracking in reading and math.

Most obvious classroom implication – ILLEGIBLE HANDWRITING AND CLUMSINESS.

Occupational therapists may assist with these problems.
Visual Motor Activity

- Star Activity
  - Try tracing in the star while looking in the mirror.
What can you do?

**Specialized Instruction**
- Use highlighters, bumped lines to create stronger visual of line location
- Model use of graphic organizers
- Teach, model and practice color coding text for organization

**Accommodations**
- Provide organizational assistance
- Assistive technology
- Provide note taking assistance
- Provide extended time for writing
- Suggest use of graph paper or paper with vertical lines for alignment of problems
Fluency in performance of cognitive tasks

Most obvious classroom implication—RESPONSE IS SLOWER THAN AVERAGE ON ALL TYPES OF TASKS, REGARDLESS OF ASSIGNMENT OR SUBJECT.

Fluency in reading, writing, and math fluency are connected to processing speed.
Processing Speed & Language

- http://www.youtube.com/watch?v=zhzh9kt8z7c
What can you do?

Specialized Instruction
- Teach time management strategies

Accommodations
- Allow additional time to complete in-class assignments, tests, writing tasks
- Allow additional time for verbal response
- Provide a cue before the student is called upon to answer
- Eliminate repetitious practice when mastery demonstrated
Verbal Reasoning

- Knowledge of vocabulary and language proficiency.
- Most obvious classroom indication – WEAK ORAL & WRITTEN EXPRESSION
- Usually speech-language pathologists are helpful in remediating this area.
What can you do?

**Specialized Instruction**
- Link to prior knowledge
- Pre-teach or preview vocabulary
- Teach vocabulary strategies
- Activate prior knowledge
- Use semantic mapping

**Accommodations**
- Allow use of graphic organizers
- Provide cues for summarization
- Provide word banks
- Provide a glossary of important terms
Nonverbal Reasoning

- Problem-solving skills for novel situations.
- Important skill in developing proficiency in math and social development.
- Most obvious classroom implications – MISREADS NONVERBAL CUES AND DOESN’T DISPLAY GOOD NUMBER SENSE
What can you do?

Specialized Instruction
- Teach student to use procedural checklists for math solution processes
- Teach students to break large tasks into steps – backward plan
- Use metacognitive modeling

Accommodations
- Provide note taking assistance
- Allow/suggest use of word processor
- Give step-by-step directions presented visually and/or auditorily
- Allow extended time for writing assignments and tests
Abstract Reasoning

- Understanding the relationship between verbal and nonverbal ideas
- Most obvious classroom implication – DIFFICULTY WITH INFERENCE SKILLS SUCH AS COMPARE/CONTRAST
- Verbal reasoning uses expressive vocabulary; abstract reasoning uses receptive vocabulary.
What can you do?

Specialized Instruction
- Use concrete examples
- Provide lists of steps for problem solving
- Activate prior knowledge
- Teach reading comprehension strategies
- Use visualization strategies
- Use metacognitive modeling

Accommodations
- Check for understanding of abstract concepts individually before pairing with another
- Preview vocabulary
1. What are processing deficits and how do these deficits impact how a child learns?
2. What does specialized instruction look like?
3. What is the difference between specialized instruction and accommodations?
Resources

- Richard Lavoie: How Difficult Can This Be? F.A.T. City--A Learning Disabilities Workshop
- LD Online  www.ldonline.org
- Misunderstood Minds Online  http://www.pbs.org/wgbh/misunderstoodminds
- Language! Teacher Resource Guide, Cambium Learning Group
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