Teaching Math to Struggling Learners

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HOMESCHOOLING STUDENTS WITH SPECIAL NEEDS: YOU CAN DO IT
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My Family

- To help you determine Why and Where your child is struggling
- To offer various teaching strategies for teaching a child who is struggling with math
- To discuss common math accommodations and modifications for struggling learners
Why the Struggle?
- DYSCALCULIA
- LANGUAGE PROCESSING
- WORKING MEMORY
- ATTENTION PROBLEMS/EXECUTIVE FUNCTIONING
- POOR INSTRUCTION
- MATH PHOBIA
- “NOT A MATH PERSON” MENTALITY

First Step
- Find out why your child is struggling
- Find out where your child is struggling

Don’t treat a conceptual problem like a computation problem

Teaching Strategies
- Basic techniques
  - Break concepts into small chunks
  - Control the level of difficulty of new material
  - Gradual Release
  - Repeated practice
  - If necessary, re-teach using different modalities
  - Be POSITIVE! 😊
  - Be REALISTIC- lots of practice, lots of exposure, lots of patience and creative teaching
Teaching Strategies

- Multi-sensory teaching approach
  - Utilize visual, auditory, kinesthetic, and tactile
  - Math programs that are multisensory in nature
    - See handout

- Computerized programs
  - See handout
  - Stay involved
    - Using program appropriately?
    - Is the skill progression right?

- Model –
  - Provide physical demonstrations

- Guided Practice-
  - Check for understanding
Teaching Strategies

- Utilize Concrete Materials
  - Give students time to ‘play’
  - Especially helpful in teaching number sense and the concept of 10
    - Abacus
    - Popsicle sticks for tally marks
    - Deck of cards and dominoes for teaching traditional dot configuration

Teaching Strategies

- Other “must have” manipulatives
  - Pattern blocks
  - Unifix cubes
  - Base ten blocks
  - Number Lines
  - 1 inch tiles

Teaching Strategies

- Association to increase recall
  - Pennies and dimes to demonstrate regrouping
  - The face of the clock to teach multiplication-Woodin
  - Abacus to teach addition facts/patterns
  - Traditional dot configuration to teach addition and subtraction-Woodin
Teaching Strategies

- Teach Vocabulary With Pictures
  - Flashcards that look like they mean
  - Visual with humorous story
  - Visuals velcro information

Teaching Strategies

- Use different modalities
  - Kinesthetic
  - Games
  - Music

Teaching Strategies

- Learning Math Facts
  - Videos
  - Music
  - Skip counting
  - Number Neighbors
  - Twist on Flash Cards

5 10 15 20 25 30 35
Teaching Strategies

- Make it relevant
  - Act out word problems
  - Incorporate math concepts throughout the curriculum
    - Science: graphing, comparing, measurement, and algebra
    - Art: patterns, ratios, measurement, geometry
    - History: time lines, graphs/charts
    - Language Arts: sequencing, ordering, organizing, verbalizing math concepts

- Talk it out!
  - Helps student find his/her internal language skills
  - Walking and talking it through: organizes the process
  - Utilizes more than one learning modality: multisensory
  - Helps you to see where your child is coming from & identify misconceptions

- Use Graphic Organizers
  - For word problems:
    - | Know | Not Needed | What is being asked? | Strategy to solve |
Teaching Strategies

- Use Graphic Organizers
  - For sorting and classifying

  red
  blue
  pink

Accommodations and Modifications

- What are Accommodations?
  - They don’t change the level of difficulty
  - They should help a student demonstrate what he/she knows
  - They could also be an adjustment to how material is presented

Accommodations and Modifications

- What are Modifications?
  - A change in the level of difficulty
  - A change in the amount of work required to complete
  - You will modify for students who have more significant needs
Accommodations

- To help with fine motor and organization difficulties
  - Use graph paper
  - Color code columns (within problems)
  - Color code columns and/or rows of math problems
  - Fold paper in columns
  - Scan worksheet and complete worksheet using keyboard
  - Reduce amount of copying

Accommodations

- To help with visual issues
  - Color code operation symbols
  - Provide a large work space
  - Provide visually uncluttered worksheets
  - Move from verbal or kinesthetic to writing out answers

Modifications

- Modifications to consider
  - Use of examples on tests
  - Reduce reading level for math text
  - Use of a problem solving sequence chart
  - Use of calculator
  - Reduce number of problems
  - Life skill math
Wrapping Up

In Conclusion~
- It's important to know why and where your child is struggling
- What are some teaching strategies that you can implement right away?
- Do you need to provide accommodations or modifications?

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Additional Resources

www.equippefminds.com
www.ldonline.org
www.dyscalculia.com
www.hslda.org/strugglinglearner/consultants
Roadblocks to Learning by Lawrence J. Greene
www.dreamboxlearning.com
Family Math by Jean Kerr Stenmark and Virginia Thompson
Questions???