

# Improving Critical Thinking Skills via Picture Books in Children with Language Disorders

Created by

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# Overview

- Critical thinking involves analysis, application and evaluation of information in order to recognize patterns, distinguish right from wrong, offer opinions, anticipate reactions, compare scenarios to choose favorable outcomes, as well as consider a variety of solutions to the same problem. These are the skills children need to make appropriate independent decisions. For language impaired children, critical thinking skills hierarchy needs to be explicitly addressed in therapy sessions in order to improve these children's independent decision-making abilities. This presentation discusses how to address critical thinking skills through picture books utilizing the framework outlined in both the Original (1956) and Revised (2001) Bloom's Taxonomy: Cognitive Domain which encompasses the (R) categories of: remembering, understanding, applying, analyzing, evaluating and creating.
- Please note that this product is part of a comprehensive presentation [From Wordless Picture Books to Reading Instruction: Effective Strategies for SLPs Working with Intellectually Impaired Students](#) which can be found [HERE](#)

# Learning Objectives:

- By the end of the presentation you will be able to:
  - Describe components of Blooms Taxonomy relevant to critical thinking skills instruction
  - List critical thinking skills hierarchy
  - Discuss how to implement effective critical skills instruction via picture books

# Bloom's Original Taxonomy (1956)

- A framework for educators to use to focus on developing and promoting higher order thinking skills in children (e.g., analysis and evaluation) rather than engaging in rote learning (memorizing facts)
  - **Knowledge** “recall of specifics ...”
  - **Comprehension** “understanding ...”
  - **Application** “use of abstractions in particular and concrete situations...”
  - **Analysis** “breakdown ...into ...elements...”
  - **Synthesis** “putting together of elements and parts so as to form a whole”
  - **Evaluation** “judgments about the value of material and methods for given purposes”
- *Taxonomy of Educational Objectives (Handbook One, pp. 201-207)*

# Revised Bloom's Taxonomy (2001)

- Changed the names in the six categories from noun to verb forms
- “Knowledge” category was renamed “remembering”, as knowledge is an outcome or product of thinking not a form of thinking per se
- “Comprehension” and “synthesis” categories were renamed to “understanding” and “creating” respectively, in order to better reflect the nature of the thinking defined in each category
- Rearranged as shown in the chart below
- Created a [processes and levels of knowledge matrix](#)
- Reflects more active form of thinking

Original Domain		New Domain
• Evaluation		•Creating
• Synthesis		•Evaluating
• Analysis		•Analyzing
• Application		•Applying
• Comprehension		•Understanding
• Knowledge		•Remembering

# Remembering

- Name setting and characters of the story
- Match story grammar cards with book pages
- Sequence 3 part picture cards
- Basic recall of information
- Story can be retold by filling the blanks
  - In a cave in the \_\_\_\_\_
  - In his deep dark lair, through the long, cold \_\_\_\_\_



<b>1</b> Knowledge  Identification and recall of information	define fill in the blank list identify	label locate match memorize	name recall spell	state tell underline
	Who _____ ? What _____ ? Where _____ ? When _____ ?	How _____ ? Describe _____ ? What is _____ ?		

# Understanding

- Teach relevant vocabulary words (e.g., describe, retell, main idea, etc.)
- Attempt to retell the story given scaffolding and pictorial support
- Interpret pictures
- Discuss characters feelings
- Make predictions re: what would happen



<b>2</b> Comprehension  Organization and selection of facts and ideas	convert describe explain	interpret paraphrase put in order	restate retell in your own words rewrite	summarize trace translate
	Re-tell _____ in your own words. What is the main idea of _____?		What differences exist between _____? Can you write a brief outline?	

# Applying

- Students are able to show that they can use the knowledge and facts acquired from the book and apply it to *other* situations.
  - Besides hibernating, **what else could the bear have done** to get through the winter?
  - **Why** is it dark in a cave?
  - **What would happen** if the bear didn't hibernate in the winter?
- Classify story characters
- Bear and mouse are mammals; wren and raven are birds;
- Mammals have \_\_\_\_\_ characteristics; birds have \_\_\_\_\_ characteristics, etc.



<p><b>3</b> Application</p> <p>Use of facts, rules, and principles</p>	apply compute conclude construct	demonstrate determine draw find out	give an example illustrate make operate	show solve state a rule or principle use
	How is _____ an example of _____? How is _____ related to _____? Why is _____ significant?		Do you know of another instance where _____? Could this have happened in _____?	



# Analyzing

- Identify characteristics of story characters
- Categorize story parts (which were funniest, saddest, etc.)
- Discuss fact vs. opinion
- Compare and contrast story characters
  - Bear and mouse are both animals;
  - Bear is big/mouse is little
  - **Why** is walking through the woods alone dangerous
  - If you were Little Red Riding Hood **what** would you do?



<p><b>4</b> Analysis</p> <p>Separating a whole into component parts</p>	<p>analyze categorize classify compare</p>	<p>contrast debate deduct determine the factors</p>	<p>diagram differentiate dissect distinguish</p>	<p>examine infer specify</p>
	<p>What are the parts or features of _____?</p> <p>Classify _____ according to _____.</p> <p>Outline/diagram/web/map _____.</p>	<p>How does ____ compare/contrast with ____?</p> <p>What evidence can you present for _____?</p>		

# Synthesizing

- If you were this character what would you do differently?
- What would happen if \_\_\_\_\_?
- How would you change \_\_\_\_\_?
- Why do you think \_\_\_\_\_?
- Where can you find the proof that \_\_\_\_\_?



<b>5</b> <b>Synthesis</b>  Combining ideas to form a new whole	change combine compose construct create design	find an unusual way formulate generate invent originate plan	predict pretend produce rearrange reconstruct reorganize	revise suggest suppose visualize write
	What would you predict/infer from _____? What ideas can you add to _____? How would you create/design a new _____?	What solutions would you suggest for _____? What might happen if you combined _____ with _____?		

# Evaluating

- Students evaluate the evidence used to draw conclusions and *justify* or *defend* their opinions of the story
- Good genres for that are Fairy Tales and Aesop's Fables
- Why do you think it was wrong or fair?
  - **Do you think** it was wrong for the wolf to try to trick Little Red Riding Hood?
  - **Do you think** it was fair that the grasshopper asked the ant for food when he didn't do any work all summer?



<b>6</b> Evaluation  Developing opinions, judgements, or decisions	appraise choose compare conclude	decide defend evaluate give your opinion	judge justify prioritize rank	rate select support value
	Do you agree that _____? Explain. What do you think about _____? What is most important?		Prioritize _____ according to _____? How would you decide about _____? What criteria would you use to assess _____?	

# Creating

- Create another character for this story
- Create an alternative ending
- Make a new scenario/episode for the story
- Place the character in a completely different setting
  - The bear goes to the beach (vs. staying in the woods)
- Create a simple song or a poem about the characters



**create**

Produce new or original work

*Design, assemble, construct, conjecture, develop, formulate, author, investigate*

# Importance of Critical Thinking Skills:

- Analogical reasoning is the process of **knowledge transfer from one situation/context to the next** (Chen, 2002). It is important for inductive reasoning development (correctly **generalizing based on available evidence**) as well as for **problem solving real-world situations** on daily basis (Wedman, Wedman, & Folger, 1999).
- Successful analogical problem solving ability allows children to **generalize and solve previously un-encountered problems**, increase the potential success of solving different types of future problems and even potentially **decrease the time needed to solve** them (Gholson, Eymard, Morgan, & Kamhi, 1987).

# Critical Thinking Skills and Learning Disabilities

- Children with learning disabilities demonstrate inefficient information processing skills and consequently have difficulty with new and complex tasks due to weaknesses in synthesizing and integrating information as well as difficulties in areas that require problem solving, complex concept formation, and executive function (EF) skills such as sticking to the task, planning, inhibiting responses, working memory, and cognitive flexibility (Forrest, 2004).
- Due to EF impairments they exhibit significant difficulties with organization, planning, and tasks requiring sequencing (Tanguay, 2001).
- Many of them find it hard to internalize feedback, learn from past experiences, deal with ambiguous and non-routine situations, understand cause-effect relationships as well as engage in gestalt processing (separate main idea from details when analyzing text).
- It is important to break up the task complexity and sequentially teach them the steps to analogical problem solving.

# Language Processing Hierarchy Pertaining to Critical Thinking (Basic to Complex) (Richard, 2001)

- **Prerequisites**

- Labeling
- Functions

- Associations

- Categorization

- Synonyms
- Antonyms
- Concepts (time, location, size, etc.)

- Similarities

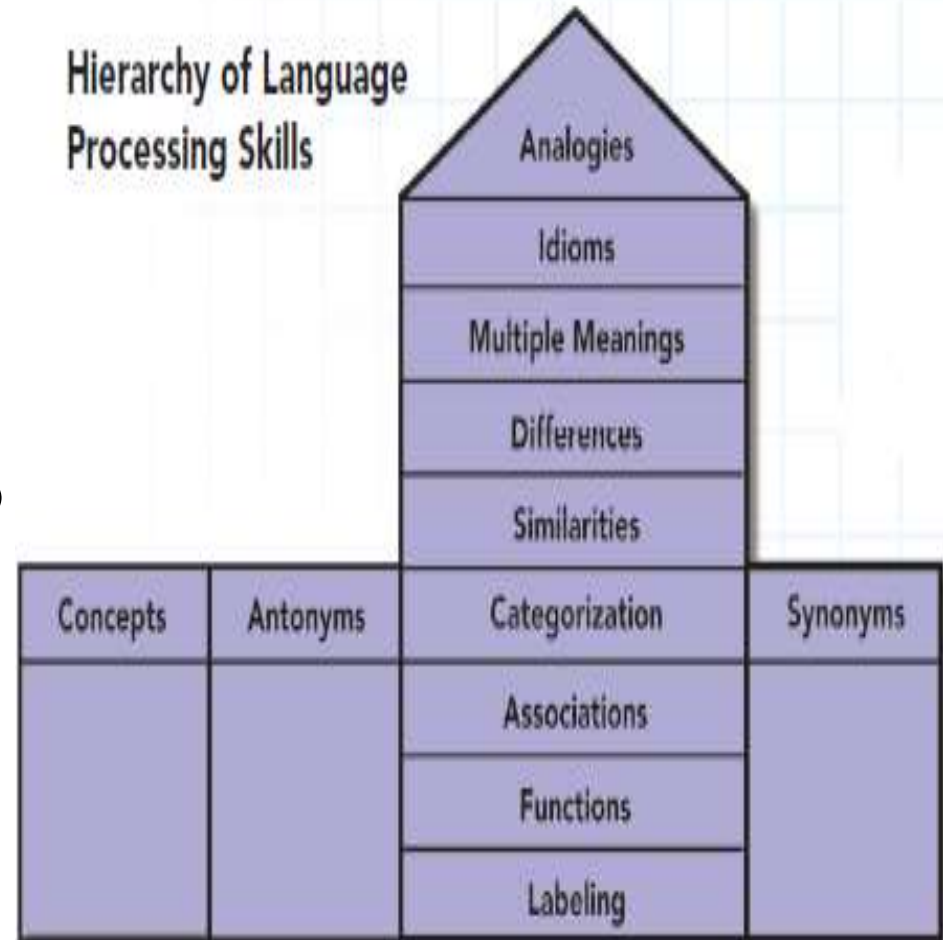
- Differences

- Multiple Meaning Words

- Idioms

- Analogies

Hierarchy of Language Processing Skills



# Training Analogical Reasoning Skills in Children With Language Disorders (Masterson & Perrey, 1999)

## Examples of sample sessions

### Training Session Topics and Objectives

Session 1: Introduction, Concrete Analogies, Perceptual Analogies

Objectives: Students will

1. verbally define an analogy.
2. list and describe the 4 steps of solving an analogy: encode, infer, map, and apply.
3. solve 10 nonlinguistic, picture analogies as a group.
4. solve 10 abstract, perceptual analogies as a group.
5. individually complete worksheets involving concrete and perceptual analogies.



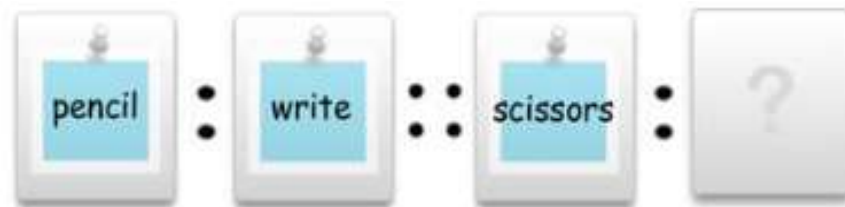


# Training Analogical Reasoning Skills in Children With Language Disorders (Masterson & Perrey, 1999)

## Session 2: Verbal Analogies

Objectives: Students will

1. review the previous day's lesson: (a) define analogy, (b) list processes to solve, (c) describe processes.
2. discuss the process of encoding as related to the reading of words.
3. list the most important attributes concerning the word *ball* and place them on a bull's-eye diagram with the most important attributes in the middle.
4. solve 15 verbal analogies as a group.
5. individually complete a worksheet involving verbal analogies.
6. develop two verbal analogies.



# Training Analogical Reasoning Skills in Children With Language Disorders (Masterson & Perrey, 1999)

## Session 3: Sentence and Paragraph Analogies

### Objectives: Students will

**Directions:** Choose the sentence that makes sense. For each question, the analogy type is written beside the question number.

**B** and **C** don't make sense!  
But hey! **A** makes sense!



Example:

#) DEGREE

- A. Something that is huge is very big.
- B. Something that is good is very bad.
- C. Something that is new is very sweet.

1. review the definition of and processes involved in solving analogies.
2. discuss the process of inferring as related to the reading of sentences.
3. use a Venn diagram to differentiate the attributes of different kinds of balls.
4. solve 10 analogies in sentence form as a group.
5. read a paragraph and construct a second paragraph dealing with an analogous topic as a group.
6. individually complete a worksheet involving analogies in sentences.

# Training Analogical Reasoning Skills in Children With Language Disorders (Masterson & Perrey, 1999)

Session 4: Analogies in Stories

Objectives: Students will

1. review analogies and the processes required to solve them.
2. listen to the story *The Lorax* (Seuss, 1971).
3. generate real-life situations that are analogous to the story.
4. generate their own analogies.
5. solve each other's analogies.



# Learning Vocabulary Words

- Language disordered children require 36 exposures (as compared with 12 exposures for TD children) to learn new words via interactive book reading (Storkel et al, 2016).
- Interactive book reading involves an adult reading a storybook to a child and deviating from the text to provide additional explicit instruction (e.g., define the new word).
- Vocabulary words were discussed before, during and after reading the book by describing or defining the word and showing other ways to use it.
- Treatment Materials Link:
- <https://kuscholarworks.ku.edu/handle/1808/20313>



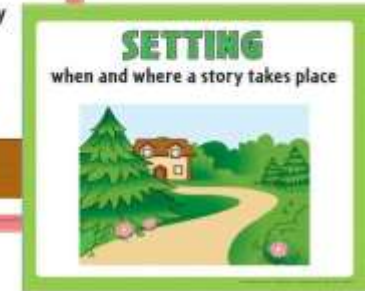
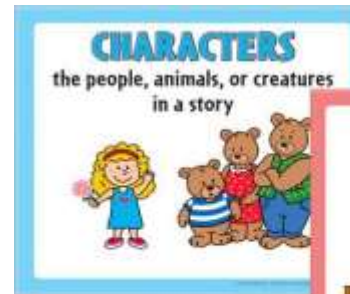
# Remediation via Use of Specific Story Prompts

- What is happening in this picture?
  - Why do you think?
- What are the characters doing?
- Who / what else do you see?
- Does it look like anything is missing from this picture?
- Let's make up a sentence with \_\_\_\_\_ (this word)
- Let's tell the story. You start:
  - Once upon a time
- You can say \_\_\_\_\_ or you can say \_\_\_\_\_ (teaching synonyms)
- What would be the opposite of \_\_\_\_\_? (teaching antonyms)
- Do you know that \_\_\_\_\_(this word) has 2 meanings
  - 1st meaning
  - 2<sup>nd</sup> meaning



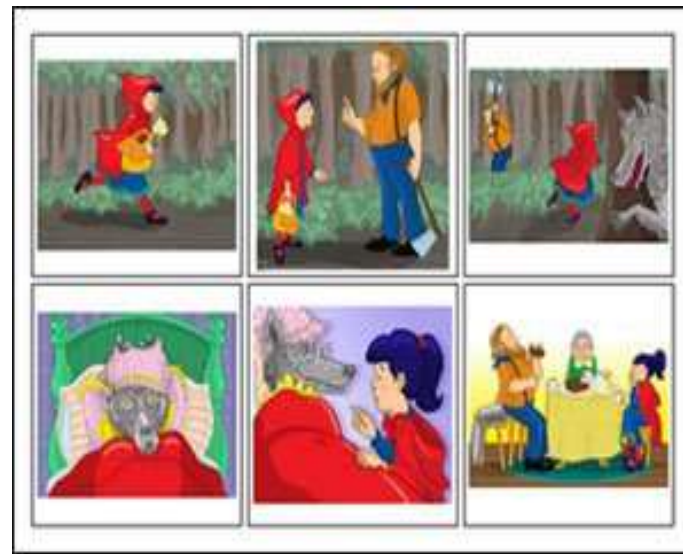
# Focus on Story Characters and Setting

- Who is in this story?
- What do they do?
- How do they go together?
- How do you think s/he feels?
  - Why?
  - How do you know?
- What do you think s/he thinking?
  - Why?
- If it's a wordless picture book
  - What do you think s/he saying?
- Where is the story happening?
  - Is this inside or outside?
  - How do you know?
- Did the characters visit different places in the story?
  - Which ones?
  - How many?



# Story Sequencing

- What happens at the beginning of the story?
  - How do we start a story?
- What happened second?
- What happened next?
- What happened after that?
- What happened last?
- What do we say at the end of a story?
- Was there trouble/problem in the story?
  - What happened?
  - Who fixed it?
  - How did s/he fix it?
- Was there adventure in the story?
  - If yes how did it start and end?



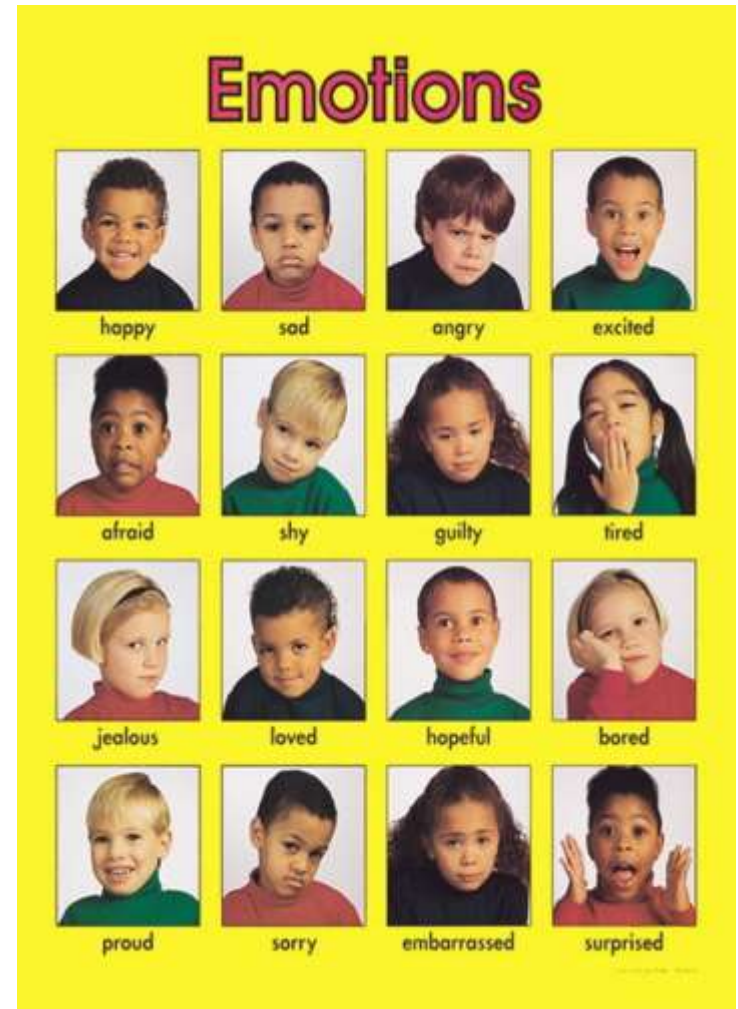
# More Complex Book Interactions

- Compare and contrast story characters/items
  - (e.g. objects/people/animals)
- Make predictions and inferences about what going to happen in the story
- Ask the child to problem solve the situation for the character
  - What do you think he must do to...?
- Ask the child to state his/her likes and dislikes about the story or its characters
- Ask the child to tell the story back after reading it
  - With Pictures
  - Without Pictures



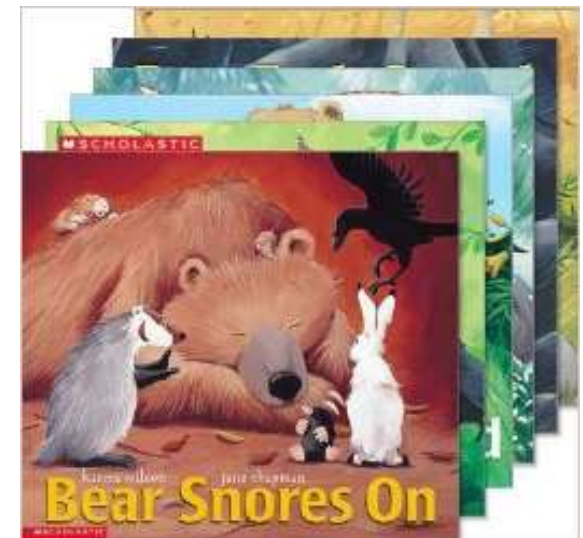
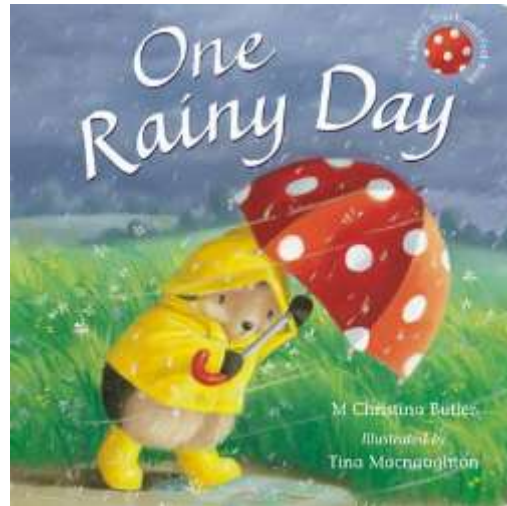
# Teaching Vocabulary of Feelings And Emotions

- Words related to thinking
  - Know, think, remember, guess
- Words related to senses
  - See, Hear, Watch, Feel
- Words related to personal wants
  - Want, Need, Wish
- Words related to emotions and feelings
  - Happy, Mad, Sad
- Words related to emotional behaviors
  - Crying, Laughing, Frowning



# Select Picture Book Authors and Series

- Alyssa Capucilli
  - Biscuit series
- Karma Wilson
  - The Bear Series
- M. Christina Butler
  - The Hedgehog Series
- Lucille Colandro
  - There was an old lady who...series
- Jez Alborough (all books but particularly)
  - Bear Series, Duck Series, Cuddly Dudley
- Keiko Kasza (ALL Books!)
- Jan Brett (Most Books)
- Audrey Wood (all books but particularly)
  - Napping House, Quick as a Cricket, The Big Hungry Bear



# New Smart Speech Therapy Resources

- [Comprehensive Assessment and Treatment of Literacy Disorders in Speech-Language Pathology](#)
- [Best Practices in Bilingual Literacy Assessments and Interventions](#)
- [Comprehensive Literacy Checklist For School-Aged Children](#)
- [Dynamic Assessment of Bilingual and Multicultural Learners in Speech Language Pathology](#)
- [Differential Assessment and Treatment of Processing Disorders in Speech Language Pathology](#)
- [Practical Strategies for Monolingual SLPs Assessing and Treating Bilingual Children](#)

# Helpful Resource Bundles

- [The Checklists Bundle](#)
- [General Assessment and Treatment Start Up Bundle](#)
- [Multicultural Assessment Bundle](#)
- [Narrative Assessment and Treatment Bundle](#)
- [Social Pragmatic Assessment and Treatment Bundle](#)
- [Psychiatric Disorders Bundle](#)
- [Fetal Alcohol Spectrum Disorders Assessment and Treatment Bundle](#)

## More Helpful Resources

- [Assessment Checklist for Preschool Aged Children](#)
- [Assessment Checklist for School Aged Children](#)
- [Speech Language Assessment Checklist for Adolescents](#)
- [Differential Diagnosis of ADHD in Speech Language Pathology](#)
- [Creating Functional Therapy Plan](#)
- [Selecting Clinical Materials for Pediatric Therapy](#)
- [Social Pragmatic Deficits Checklist for Preschool Children](#)
- [Social Pragmatic Deficits Checklist for School Aged Children](#)
- [Language Processing Deficits Checklist for School Aged Children](#)

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