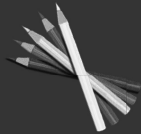


A Language Processing Disorder: The Perceptual, Linguistic, & Cognitive Connection

51



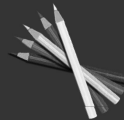
Margo Kinzer Courter, MBA, MA, CCC-SLP, BCS-CL



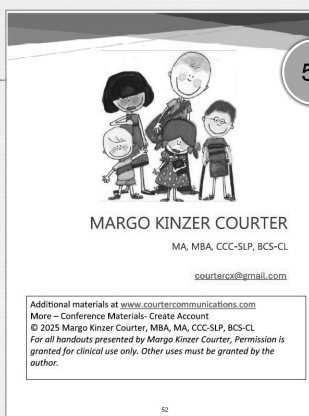
Learning Outcomes

At the end of this presentation, our goal is that you will be able to:

1. Better define a language processing disorder
2. Describe strategies for areas discussed



52

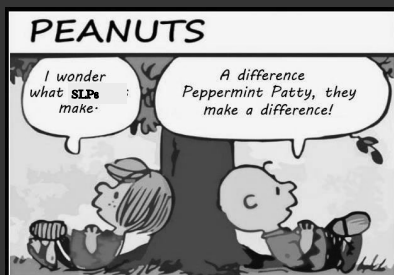


Margo's Website

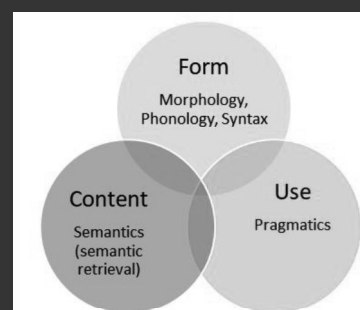
<https://courtercommunications.com>



- What does language processing mean to you?

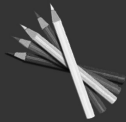


It is More Than the 5 Domains



Definition of Language Processing

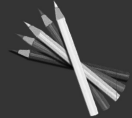
Language processing refers to the integration of phonemic, linguistic, and cognitive information at a rapid pace to develop appropriate listening and language skills including higher-order cognitive, language, or related areas.



Signs and Symptoms

Receptive

- Has difficulty gaining meaning from spoken language
 - ? Phonemic awareness
 - ? Difficulty with complex syntax
 - ? Multiple meaning of words
 - ? Metalinguistic skills
- Has difficulty with higher order language skills (metalinguistic skills) (main idea, predictions, inferences, reasoning, figurative language)
- May have difficulty planning and organizing thoughts, working memory, and sustained attention (executive function)



Expressive

- Demonstrates poor written language expression
- Shows difficulty expressing thoughts verbally
 - ? Retrieval
 - ? Syntax
- Using a general category or word instead of a specific word (e.g., saying "food" instead of "cake")
- Being quick to say "I don't know" in response to a question



Receptive/Expressive

- Difficulty with social pragmatic language (perspective taking, main idea, details, reasoning, figurative language, working memory and processing time.)
- Taking a long time to respond to a question

? Retrieval	? Memory
? Lag in language processing speed	? Attention
- Experiencing difficulty following long or complicated directions
- Feeling lost when listening to stories with lots of events and characters

Looking at the 2 Terms

55

Central Auditory Processing

Deficits in the neural processing of auditory information in the central nervous system as acoustic signals leave the cochlea and travels through Heschl's gyrus

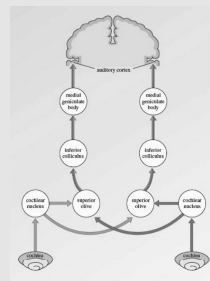
May lead to or be associated with difficulties in higher order language, learning, and communication functions

Language Processing

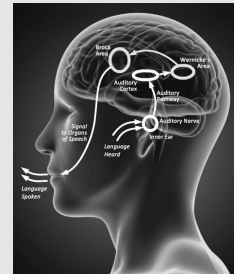
Meaning is attached to the auditory signal (begins at Heschl's gyrus, to Wernicke's, angular gyrus then to the prefrontal and frontal lobe for planning, organizing and sequencing)

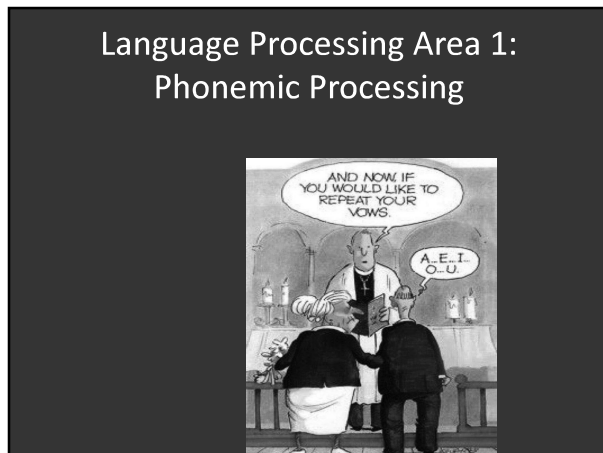
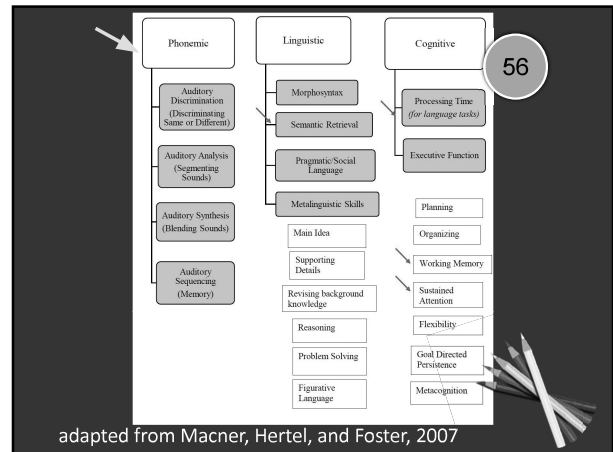
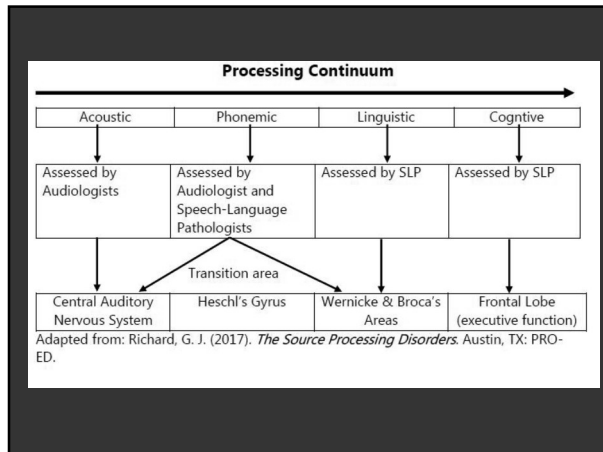
Processing information at a rapid pace to develop appropriate listening and language skills, higher order cognitive language and related areas

Central Auditory Processing



Language Processing





Language Processing Area 1: Phonemic Processing

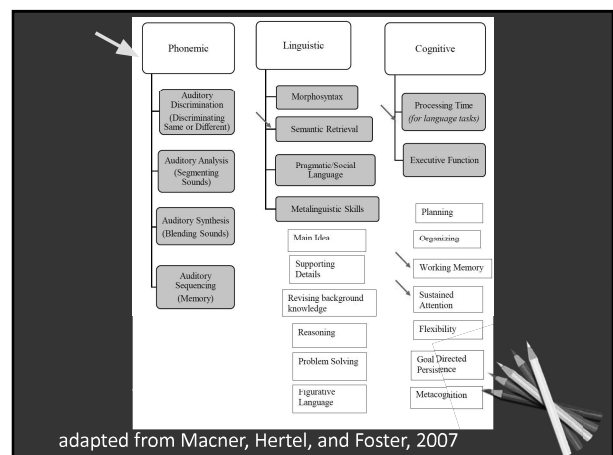
Richard's (2017)

Phonemic Processing begins when the peripheral auditory system (ear and cochlea) communicate with CNS. CNS perceives the acoustic signal and then it is processing throughout the acoustic, phonemic, and linguistic characteristics.

Explanation: Continuum

Phonemic Processing

- Meaning is attached to the signal from Heschl's gyrus



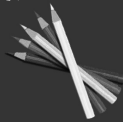
The Link Between Auditory and Linguistic Processing

Auditory discrimination- Distinguishing sounds as the same or different

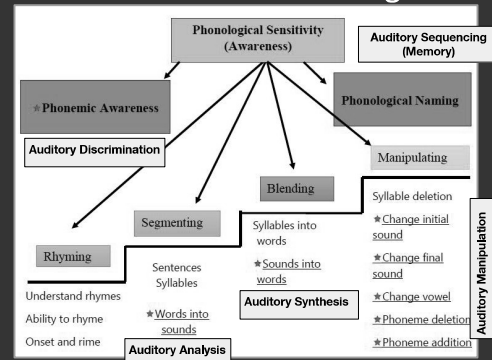
Auditory analysis-Segmenting a word into its sounds (phonemes)

Auditory synthesis- Blending sounds together

Auditory sequencing-Auditory memory for auditory information in a specific order



Phonemic Processing



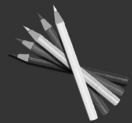
Phonemic Awareness/Sound Segmenting/Sound Blending



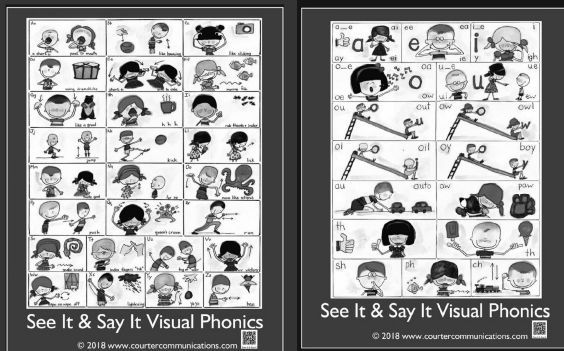
Visual Phonics Programs

- Lively Letters <https://www.livelyletters.com/>
- Zoo Phonics <https://zoo-phonics.com/>
- See It & Say It Visual Phonics Program

<https://shop.courtercommunications.com/main.sc>



Visual Cues



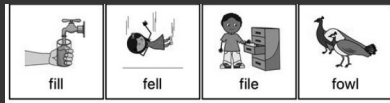
Target Phoneme Pairs

- "A phoneme pair such as the / f / and voiceless / th / are articulated in similar (yet different) ways, and so they sound similar, but they are, in fact, acoustically different.
- These sound pairs are more difficult to distinguish than other sound pairs because the way they are spoken (articulated).
- They should be perceived and recognized by listeners as two different phonemes, even in the absence of visual cues, i.e., by listening alone" (Wasowicz, J. via SPELLTalk, On Dec 22, 2020).

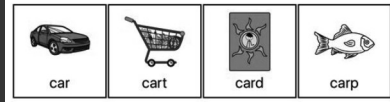
Examples of Boards

available on Margo's website <https://couriercommunications.com/therapy-materials>

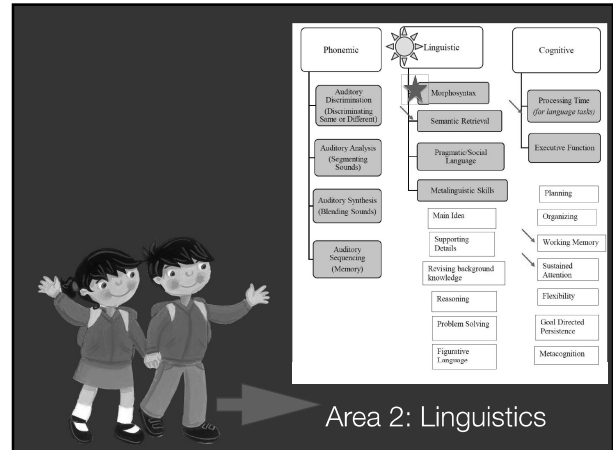
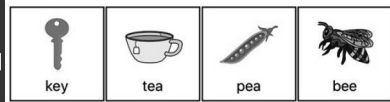
vowels



final sound



initial sound



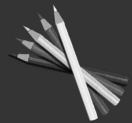
Linguistic Component Area 1: Morphosyntax

Syntax which includes sentence structure and grammar plays such a critical role in auditory and reading comprehension' thus, language processing.

- The child may understand single words, and have an excellent vocabulary, but have difficulties in understanding the meaning of phrases or sentences. Because comprehension can be so variable, others may think that the child is "just not trying" or "not paying attention."

Linguistic Component Area 1: Morphosyntax

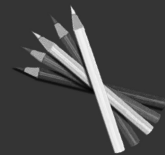
- Lengthy, complex, and abstract sentences are especially difficult if presented at a normal or faster speaking rate.
- Experiencing difficulty following long or complicated directions








The Evidence

- Verb voice and clause structure (dependent and relative- who, that, or which) can affect reader performance
 - He would have gone had he not had a cold.
 - The report that John wrote won an award. (Relative clause)
 - If you would have completed your homework, we could have gone outside.
 - Before we go outside, we need to finish our assignment.

Morphosyntax Strategies

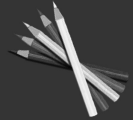


Expanding a Sentence through Questioning

Who	The cute puppy	
What	The cute puppy sleeps.	
Where	The cute puppy sleeps on her new bed.	
When	At night, the cute puppy sleeps on her new bed.	
Why	At night, the cute puppy sleeps on her new bed because she is tired.	

Highlighting Strategy for Skimming and Scanning

Read each sentence below. Circle the subject and underline the verb. Then write a prepositional phrase on the line to complete the sentence.



Examples from Superteacher Sentence Combination Tasks

Combine each pair of simple sentences to make a compound sentence. Use the conjunction in parenthesis.

1. A small kitten followed me home. I gave it a bowl of milk. (so)

2. We were lost in the woods. My brother had a map in his backpack. (but)

3. The girls were painting animal pictures. Katrina spilled the paint. (and)

Super Teacher Worksheets - www.superteacherworksheets.com

From softschool.com

Compound Subjects and Compound Verbs

Middle School Example

We are not allowed to play the game if it is lightning. We have seen three lightning strikes. We have to call off the game.

Dolphins live in groups called pods. Dolphins are dedicated to the members of their pod. Dolphins will help each other if the pod is attacked or if one member is hurt.

I am involved in several activities after school. I need to be able to get in touch with my parents after school. I need a cell phone.

Jumbled Sentences/Ready Made Materials

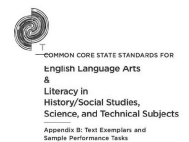
Advanced Grammar & Sentence Structure Program by Karen Krogg (\$32.00 on TPT)

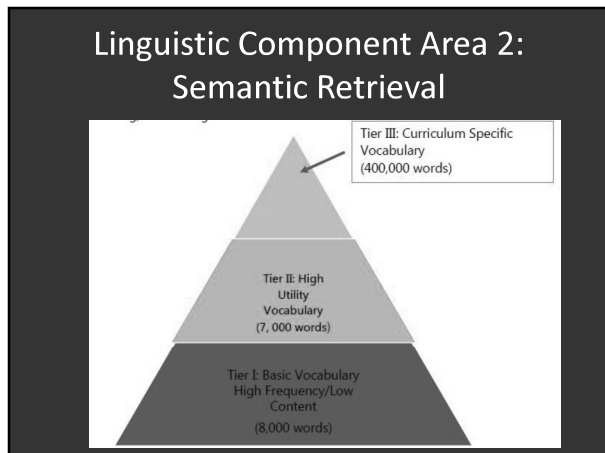
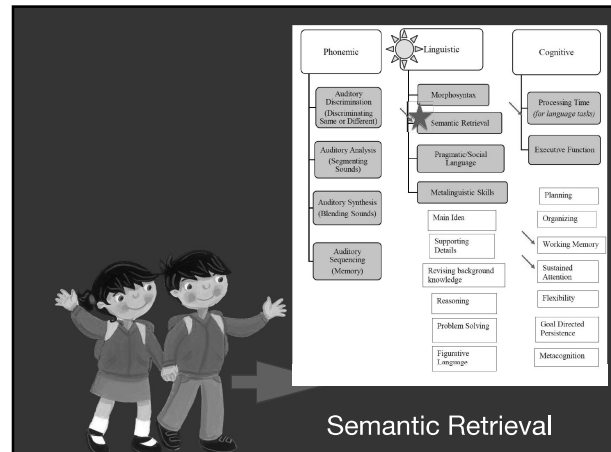
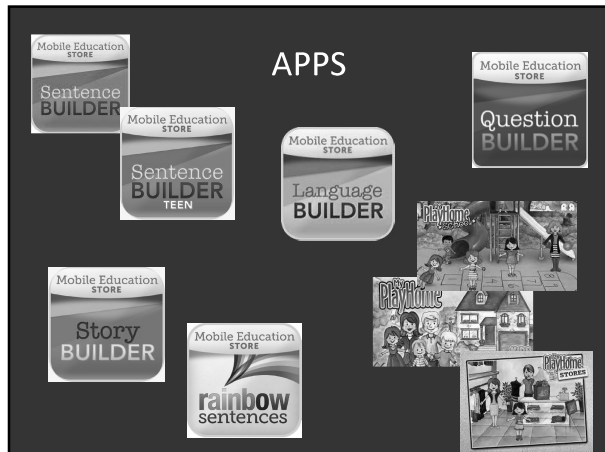
<https://thedispeechie.com/product/advanced-grammar-sentence-structure-program>



Great Resource

http://www.corestandards.org/assets/Appendix_B.pdf





Definition of Retrieval

An expressive language disorder that impacts the retrieval of words in the presence of good comprehension.

The words are stored in long term memory but cannot be quickly retrieved.

These students may exhibit problems retrieving specific words in single word retrieval contexts and in discourse - Diane German, Ph.D.

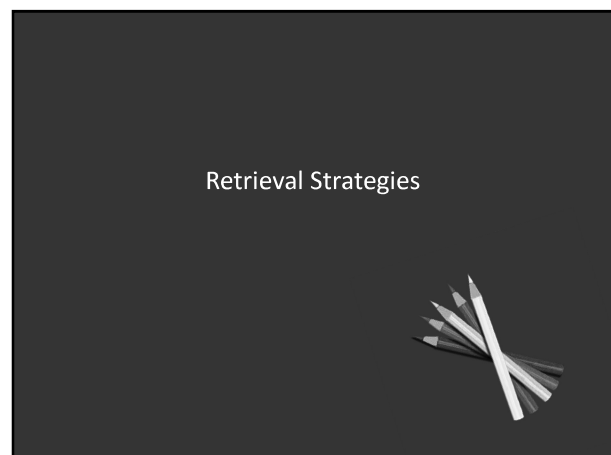
www.wordfinding.com

Word Retrieval Error Patterns

- Pattern 1 ("Slip of the Tongue" error): Semantic Error
- Pattern 2 ("Tip of the Tongue" error): Form Related Block Error. No response
- Pattern 3 ("Twist of the Tongue" error): Form and Segment Phonological Error

Diane German, PhD

When there is a retrieval disorder, retrieval strength also needs to be targeted. Match strategies to retrieval profile.

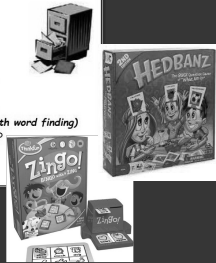


Category, Function, Location

Strategies for Word Retrieval

①Category: classification
 ②Function: what it does or what is done with it
 ③Location/origin: where the item is found, stored or used
 ④Composition: what the item is made out of
 ⑤Components: associated objects or items that go with it
 ⑥Size/shape: size, length, width, height, shape or analogies made to size/shape
 ⑦Color: the basic colors that it has
 ⑧Gestures: movement of hands or body to describe
 (⑩ provides the most information to assist a child with word finding)

Margo Kinzer-Courter, MA, CCC-SLP
 www.courtercommunications.com
 317 696 9954



Strategies for Retrieval of Spelling and Vocabulary Words

Name: _____ Class: _____ Score: ____ / ____

Definition Facts/Characteristics <i>very beautiful</i>	Picture
Part of speech: <i>adj</i>	
Synonym <i>beautiful</i>	Antonym <i>ugly</i>

Sentence: *the mountains here seem so majestic.*

Vocabulary Worksheet

Name: _____ Class: _____ Score: ____ / ____

Definition Facts/Characteristics the main events of a play, novel, movie, or similar work	Picture
Synonym <i>storyline</i>	Antonym

plot

Sentence:
The plot of Real Friends is about Shannon figuring out what makes real friendships.

Resources



Impact of Pragmatics

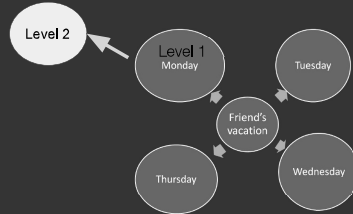
Pragmatics is the most complex aspect of linguistic functioning, as it requires integration of information across **numerous cognitive systems**. Consequently, for intervention to yield effective long-term outcomes, clinicians need to approach pragmatics as an integrative domain combining neurocognitive abilities (i.e., **language processing speed, supralinguistic skills (main idea, details, inferencing, predicting, reasoning, world/background knowledge), and executive functioning (planning, organizing, flexibility, attention and working memory) and linguistic knowledge.** (Martin & McDonald, 2003).



Pragmatic Social Language

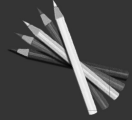
Characteristics of a Pragmatic Language Difficulties

- Difficulty understanding the main idea
- Difficulty understanding level 1 details from level 2 details

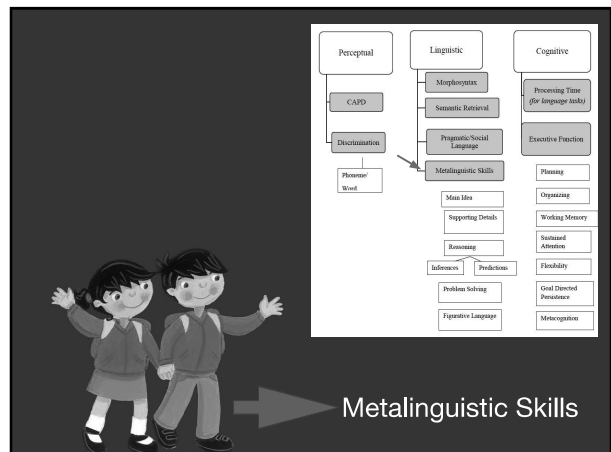
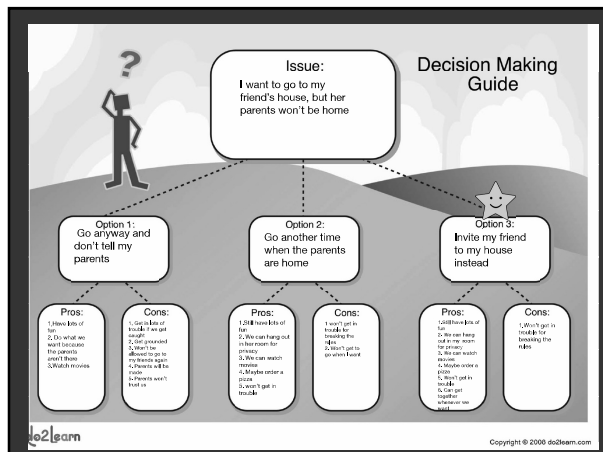
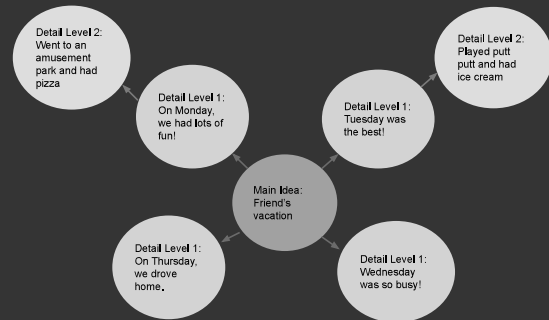
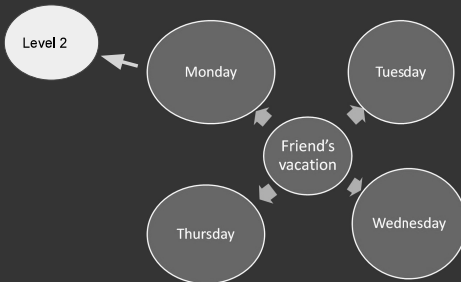


Characteristics of a Pragmatic Language Difficulties

- ❖ Difficulty making inferences
- ❖ Difficulty predicting where the conversation is heading
- ❖ Taking Listener's Perspective or point of view
- ❖ Will also see in taking an author or character's perspective

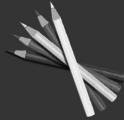


Visual Graphic Strategies for Main Idea, Details, and Organization of Thoughts



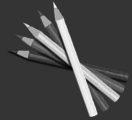
Metalinguistic Higher Order Language

- Difficulty with figurative language
- Difficulty with jokes and riddles
- Feeling lost while listening to stories with many events and characters
- Difficulty joining in conversations



Metalinguistic Higher Order Language

- Difficulty with main idea and supporting details
- Difficulty with reasoning and inferences
- Difficulty problem solving
- Difficulty revising one's background knowledge when new information is presented
- Difficulty understanding math story problems



Figurative Language through Idioms

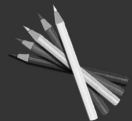
Target these idioms in sentences that would require the student to make connections between what they know and how the idiom is being used. These can also be used as sarcasm and the student must figure out why it does not fit. For example: A student did not study for a test and went to bed early. His friend states, "You really burned the midnight oil."

Possible Idioms to Target

<ul style="list-style-type: none"> • back off • hit me later • cold feet • hit the ceiling • wrap it up • step on one's toes • pick one's brain • keep a straight face 	<ul style="list-style-type: none"> • in hot water • piece of cake • think outside the box • make it pop • pull some strings • beat around the bush • get off my back • on the tip of my tongue 	<ul style="list-style-type: none"> • running behind • sleep on it • read between the lines • last straw • touch and go • rock the boat
--	--	--

Assessments

<https://www.ereadingworksheets.com/figurative-language/idiom-worksheets/>



Strategies

- Target any language domains that may be confusing to the student. For example, "Back off." Back as several different meanings such as a body part and a location (back of the room, back of the line.)
- Build into a game
 - Divide into teams.
 - The first team chooses an idiom (this can just be the phrase or embedded in a sentence)
 - If they are not able to solve the idiom, the other team gets a chance.

Resources in your Handbook

Jokes/Riddles

**A photograph of Darth
Vadar's rarely
photographed wife...**

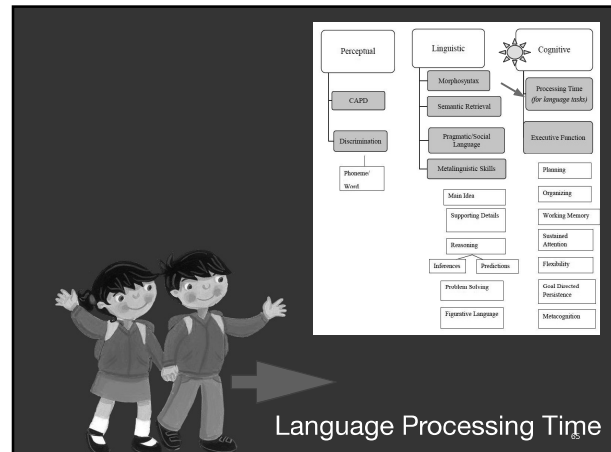


Jokes/Riddles

**A photograph of DARTH
VADAR's rarely
photographed wife...**

**Ella.
Ella Vadar**

www.menafter50.com



Cognitive Component 1: Lag in Processing Auditory Information

- Information processing involves multiple cognitive tasks and students may take additional time to process through what was said



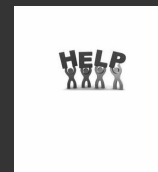
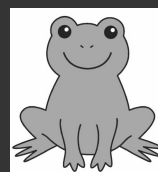
Lag in Processing Auditory Information

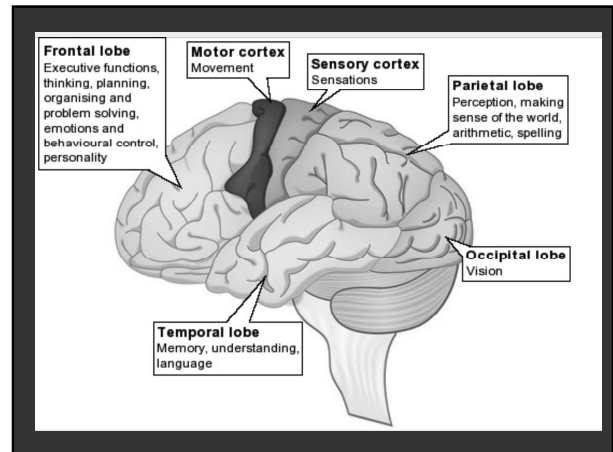
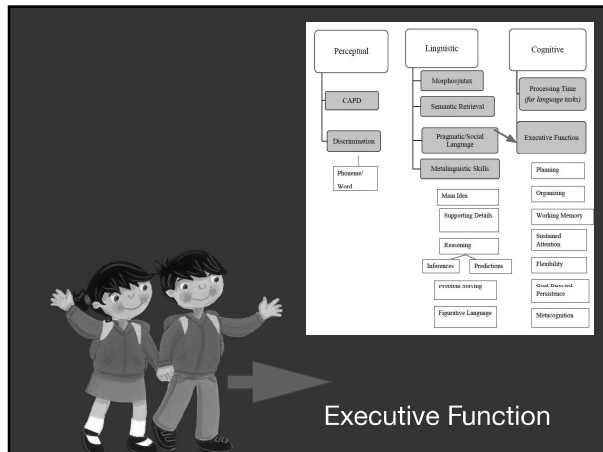
- Information processing involves multiple cognitive tasks - students may need greater time to process through
- better in everyday situations than in situations where there are few or no extra clues to meaning. In such situations, the child may fail to respond, may repeatedly say "Huh?", may simply guess what has been asked, or may even repeat some or all of what was said.
- Taking a long time to respond to a question

Ways to Support Language Processing Time

- Build background knowledge
- Present information in several modalities.
- Divide the instruction into smaller, more manageable chunks.
- Help the child make connections between different concepts by regularly referencing his/her background knowledge.

- Create Wait Time (introduced by Mary Budd Rowe, 1972).
 - A period of silence that follows a teacher's question and the student's response. When these periods are at least 3-5 seconds, she found
 - Decrease of response of "I don't know"
 - More volunteered appropriate responses





What are Executive Functions?
(See Sequence, Organize, & Plan)

Foundational Skills	Advanced Skills
Response Inhibition (begins developing around 6 months of age) Games: (anyone that develops wait and stop) Red Light Green Light, Mother May I Working Memory Strategy: Pair verbal with visual Flexibility Strategy: Help student find a plan B Resource: Decision Making Guide https://ids2learn.com/organizationtools/SocialSkillsToolbox/DecisionMakingGuide.htm	Planning and Prioritizing Strategy: Plan with students instead of for students. Organization Strategy: Support students with creating and <i>maintaining</i> organization Goal Directed Persistence Strategy: Support the student in setting small goals that are obtainable. Metacognition Use a situation that has occurred to self monitor and evaluate oneself. Strategy: Encourage self-reflection following success.
Sustained Attention Strategy: How long can you work before you need a break? (decrease the time in small increments) Task Initiation Strategy: Have student make a plan with a start time.	

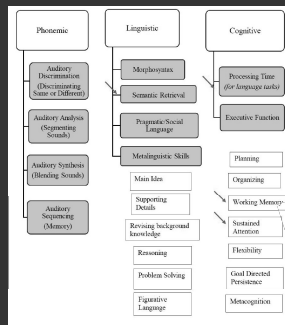
Overall Classroom Strategies for Language Processing

1. Simplify directions/information
2. Preview and Review (vocabulary and concepts)
3. Relate to previously learned information
4. Reassigned reading, homework, videos, online information before introducing a new topic

5. Short preview, outline, new vocabulary, and key points as a guide for parents
6. Assist student in summarizing what the student is reading & take notes for understanding and retention
7. ADVOCATE and work toward self advocacy

Your Definition of Language Processing

Language processing refers to the integration of perceptual, linguistic and cognitive information at a rapid pace to develop appropriate listening and language skills including higher-order cognitive, language, or related areas.



Final Thoughts

When we look beyond the form, content, and use of language, we may find a language processing disorder that impacts our students' ability to communicate and participate fully.



*****Simple Sentence Construction: Pinterest



Figurative Language

- Simile
- Metaphor
- Personification
- Alliteration
- Onomatopoeia
- Hyperbole
- Idioms
- Puns
- Oxymoron
- Semantic absurdities
- Current expressions

