
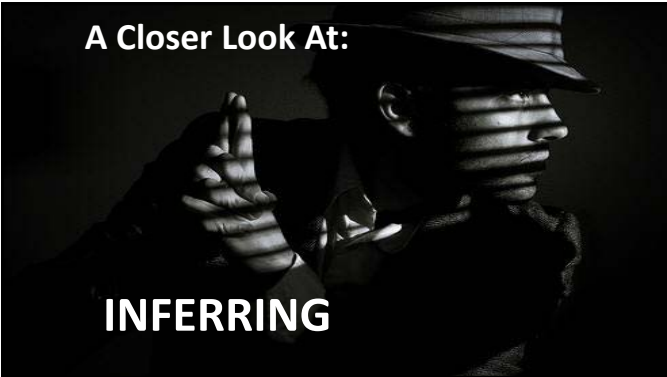


Teaching Inference to Students with Autism Spectrum Disorders

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A Closer Look At:



INFERRING

Paradigm shift

Robert Marzano
...some cognitive processes are foundational to higher-order thinking.
Inference is one of those foundational processes.
To begin, it's useful to make students aware of the fact that they generate inferences all the time.

Four Questions to Pose

- Question 1: What is my inference?
- Question 2: What information did I use to make this inference?
- Question 3: How good was my thinking?
- Question 4: Do I need to change my thinking?



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Activity Grocery List



Think-Pair-Share


1. Work independently and think about items that need to be included for your list. Try to list 5-10 items.
2. Please don't be overtly obvious and give away for whom or what your grocery list was created.
3. You want others to have to analyze your grocery list, draw conclusions, and make an inference to decide to whom or what the list pertains.

You'll have 3 minutes for this part of the activity.

Inferring in the Social World



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Comprehension – Receptive



**Voice Quality
38%**

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Comprehension – Receptive


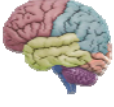
Words 7%	 <p style="font-size: small;">WORDS 7% VOICE QUALITIES 38%</p> <p style="font-size: small;">BODY LANGUAGE 55%</p>
Voice Quality 38%	
Body Language 55%	

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Neurological Differences

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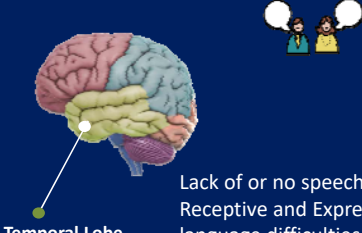
Brain Structure Differences

Many children with autism have differences in some of the brain structures.

Theses differences in the brain can make inferencing difficult for students with ASD

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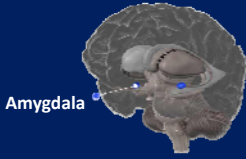
Temporal Lobe:
Auditory / Speech and Memory Centers



Lack of or no speech
Receptive and Expressive
language difficulties
Echolalia

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Amygdala:
Involved in Emotion



Difficulty understanding social and emotional
responses

Difficulty understanding humor / sarcasm / social
cues

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How this looks in the Real World



Without talking to your table partners, write on a Post-it note what you say when you want this to happen.



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Don't be surprised if you get a reaction when you say...

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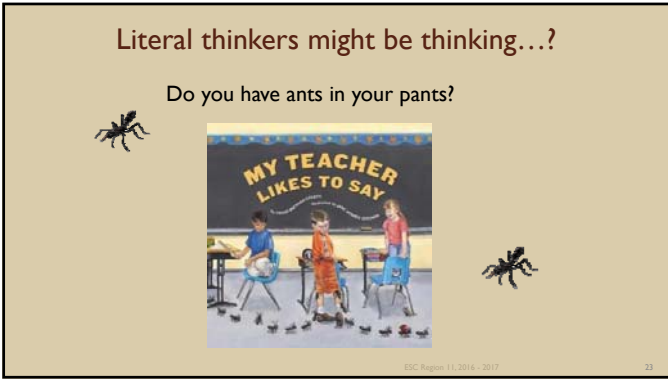
OR...



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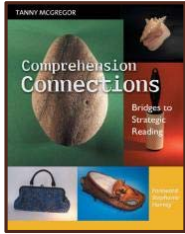
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Comprehension Connections



? Clean Trash Activity

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To students, the phrase

“MAKING INFERENCES”

often means little or nothing.



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Using Dramatic Action to Define Inferring

- ▣ Have students brainstorm a list of different emotions.
- ▣ Write each emotion on an index card, have students get with a partner and draw a card.
- ▣ The partners will decide what
 - ▣ 1. Physical actions and
 - ▣ 2. Facial expressions they could do/make that would help the class guess the emotion.

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Using Dramatic Action to Define Inferring

- Scenario One: (Actions)
 - Leave the classroom and walk in acting excited and looking at the clock.
 - Invite students to infer what could be about to happen.
- Scenario Two: (Voice)
 - Say the word, "What" as if you wonder, as if you are angry, as if you don't know, etc. (No/ Yes; Great; Good-bye)
 - Say the sentence, "You are so smart." in different ways (genuine, sarcastic)



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Livebinders.com

- I wanted to share this LiveBinder with you - Making Inferences
<http://www.livebinders.com/play/play/944250>
- Binder access key: ESC I I
- Please make notes in your Lesson Plan of Tabs or Subtabs that contain resources you want to remember to use during the first six weeks.**

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Theory of Mind... Mind Blindness



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Theory of Mind... Mind Blindness



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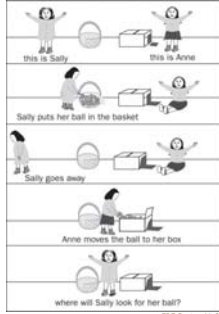
Theory of Mind (ToM)- is defined as the ability to recognize, understand and infer other people's mental states (their thoughts, beliefs, desires, intentions, etc.), and the ability to use this information to interpret what they say, make sense of their behavior and predict what they will do next. (Howlin, Baron-Cohen & Hadwin, 1999)

Sometimes called "mind-blindness".
(Baron-Cohen, 1995)

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The Sally Ann Test



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Executive function is a set of mental processes that helps connect past experience with present action.

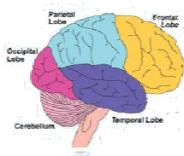
People use it to perform activities such as planning, organizing, strategizing, paying attention to and remembering details, and managing time and space.



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Executive Functioning



Frontal lobe is responsible for much of the executive functioning of the brain.

- These functions include:
- Attention
 - Working memory
 - Planning, organizing
 - Forethought
 - Impulse control

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Executive functioning

- 1. Making a plan
- 2. Knowing the steps to a task / activity
- 3. Developing problem solving strategies
- 4. Initiating – stop - start



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When you see a student that looks stuck...



Teach the student how to ask for help.

Teach the student how to use a graphic organizer

Teach the student strategies for when they get stuck

Give a beginning and end / help them predict

Teach means teach and reteach



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Teaching Inference with Pictures



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Making Inferences with Photos

Our Observations	
Our Schema	
Our Inferences/Con	

By: _____

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Temple Grandin

“I think in pictures. Words are like a second language to me. I translate both spoken and written words into full-color movie, complete with sound, which ***run like a VCR tape in my head.***”

When somebody speaks to me, his words are instantly translated into pictures.”

— From Thinking in Pictures (p.1)

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Use pictures from a magazine or book

- ▣ Ask your students about what is happening in the picture or what the story will be about.
- ▣ Think aloud as you make connections between the facts and your prior knowledge, using phrases such as, "The picture looks like... or I know that..."
- ▣ Many of our learners are visual learners so only providing the auditory teaching of modeling the thought process is not enough.

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What do they see?
What are they doing?
Who are they? Why...?



Can you guess what will happen next? What will the sequence of events be? What is happening in this picture? Write a story that goes with this picture.

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Livebinders.com

- ▣ I wanted to share this LiveBinder with you - Visuals Photo Gallery

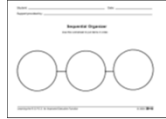
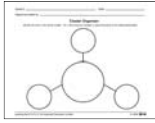
<http://www.livebinders.com/edit/index/1716355>

- ▣ **Please make notes in your Lesson Plan of Tabs or Subtabs that contain resources you want to remember to use during the first six weeks.**

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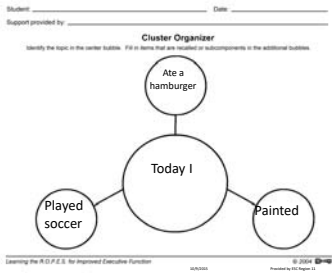
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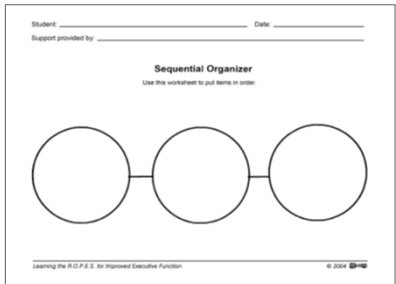
Graphic Organizers



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Name _____

Interesting Inferences

Use what is in the book + with what I already know = helps me to infer

Use what is in the book + with what I already know = helps me to infer

Use what is in the book + with what I already know = helps me to infer

What does inferring mean to you? _____

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Name _____

Interesting Inferences

Use what is in the book + with what I already know = helps me to infer

The cover shows a dog and a net. I know that people can catch dogs without a home. I can infer that the dog must not have a home. That must be what "stray" means.

Use what is in the book + with what I already know = helps me to infer

It shows a bowl with water and some food. I know that dogs need those things to survive. I can infer that the family want to see little again so they left out the water and food to see if he will come back.

Use what is in the book + with what I already know = helps me to infer

The kids are jumping up and down. People jump up and down when they are happy. I can infer that the mean let the kids keep the dog because of their happiness.

What does inferring mean to you? _____

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Name _____ Date _____

Making Inferences: Reading between the Lines

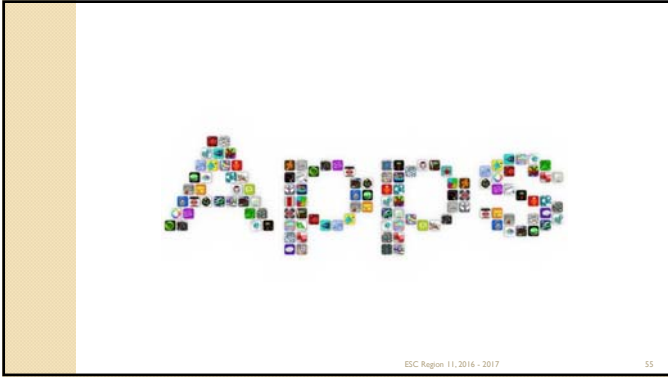
Directions: Read the text to make an inference based on the information provided and what you already know. Remember, you want to read what the author isn't telling the reader directly.

What I know from the text: _____

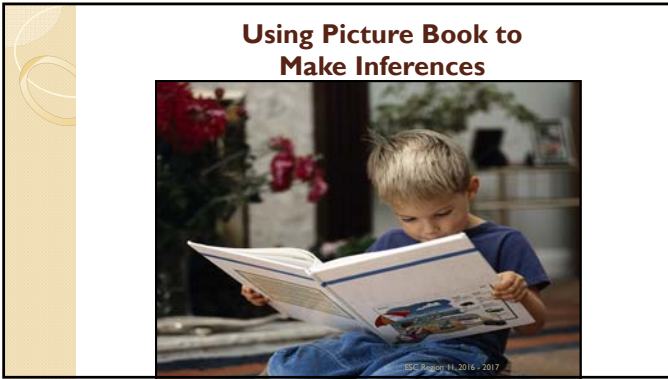
What I know from my brain: _____

My Inference: _____

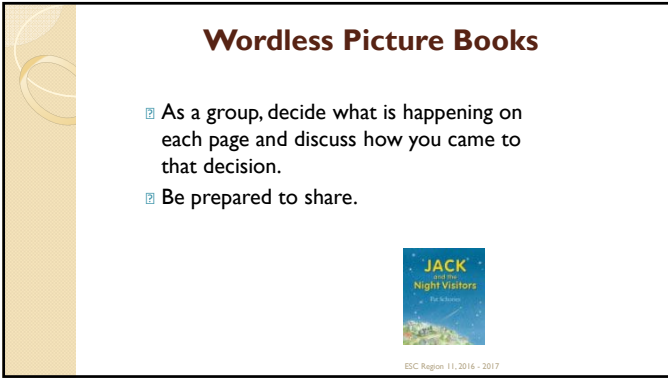
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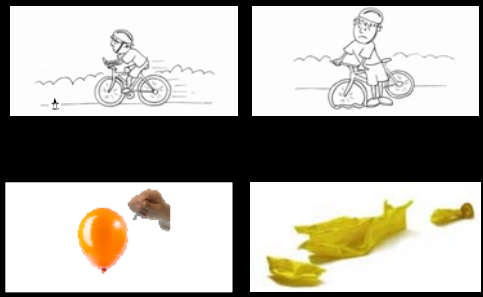
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Predicting
 Clues in stories and things
 you already know, can tell
 you what may happen next.






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Reflection...

- ▶ An idea I have... 
- ▶ A feeling I experienced... 
- ▶ An action I will take... 

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Please contact me if I can assist you in the future.

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- › (817) 740-7596
- › mtucker@esc11.net



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