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**continued**



## **Targeting Social, Academic, & Transition Needs of Young Teens with Autism Spectrum Disorder**



**Guest Editor: Linda R. Schreiber, M.S., CCC-SLP, BCS-CL, ASHA Fellow**

**In partnership with American Board of Child Language and Language Disorders**

**continued**  
ONLINE CONTINUING EDUCATION FOR THE LIFE OF YOUR CAREER



### **Building Skills in Inferring and Summarizing for Older Students with Social Communication Disorders**

**Carol Westby, PhD, CCC-SLP**

Moderated by:  
Amy Natho, MS, CCC-SLP, CEU Administrator, [SpeechPathology.com](http://SpeechPathology.com)

**continued**



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continued

## Building Skill in Inferring and Summarizing for Older Students with Social Communication Disorders

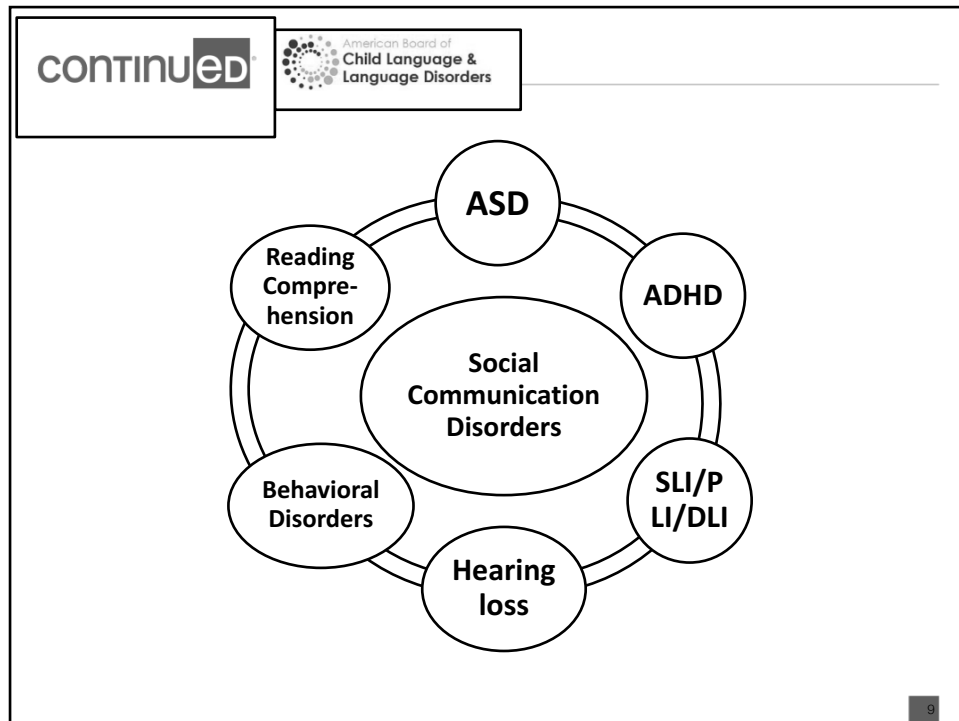
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continued

## Learning Objectives

- After this course, participants will be able to describe types of inferences.
- After this course, participants will be able to describe how to analyze the inferencing abilities of students with social communication impairments.
- After this course, participants will be able to describe strategies that develop students' abilities to make inferences.






continued American Board of Child Language & Language Disorders

## What is an Inference?

The inference equation:  
Discourse/text/picture + prior knowledge = inference



Picture of  
dinosaurs smoking  
cigarettes

+

Knowledge

- Dinosaurs are dead
- Smoking can kill

= dinosaurs died  
because they smoked

Real reason dinosaurs died

An inference is the information gained from the picture and or text combined with our prior knowledge

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## Comprehension Requires That

Readers build a mental model or representation of the situation or world (real or imaginary) described in the text.

### The Hunger Games

by  
Suzanne  
Collins

### The Divergent Series

by  
Veronica Roth



### Dystopian Stories

Perfetti, C., (1997). Sentences, individual differences, and multiple texts: Three issues in text comprehension. *Discourse Processes*, 23, 337-355.

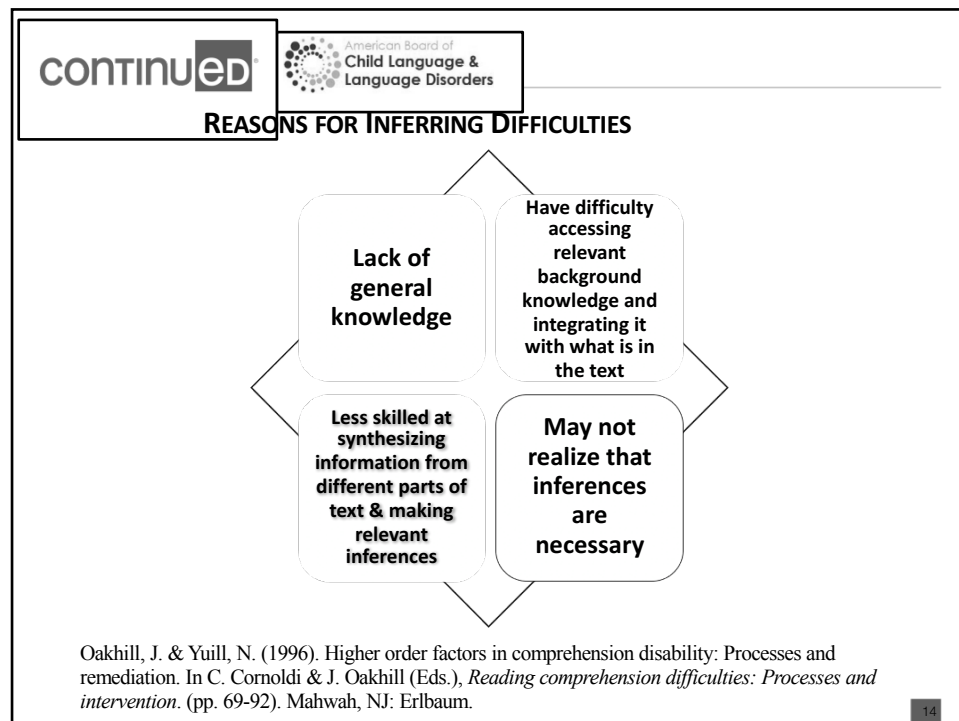
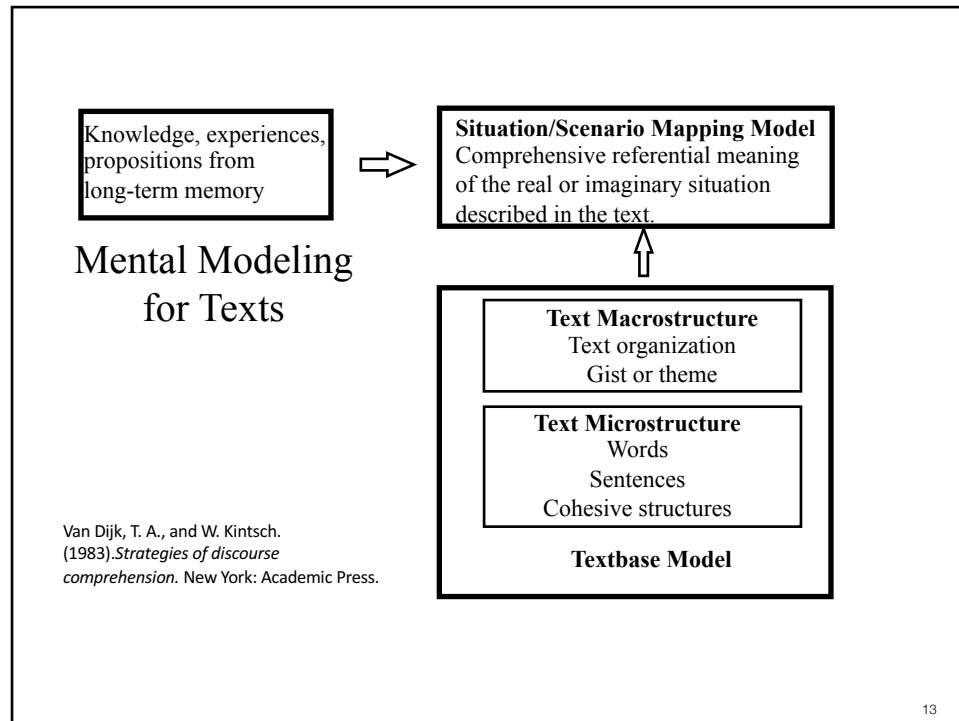
11

The procedure is actually quite simple. First you arrange things into different groups. Of course, one pile may be sufficient depending on how much there is to do. If you have to go somewhere else due to lack of facilities that is the next step, otherwise you are pretty well set. It is important not to overdo things. That is, it is better to do too few things at once than too many. In the short run this may not seem important but complications can easily arise. A mistake can be expensive as well. At first the whole procedure will seem complicated. Soon, however, it will become just another facet of life. It is difficult to foresee any end to the necessity for this task in the immediate future, but then one never can tell. After the procedure is completed one arranges the materials into different groups again. Then they can be put into their appropriate places. Eventually they will be used once more and the whole cycle will then have to be repeated. However, that is part of life.



Bransford, J.D., & Johnson, M.K. (1972). Contextual prerequisites for understanding: Some investigations of comprehension and recall. *Journal of Verbal Learning and Verbal Behavior*, 11, 717-726.

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## Types of Inferences

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### Classification of Inferences: How they make text coherent

Name	Example	Explanation
Local		Creates a coherent representation at the local level of sentences and paragraphs
1. Coherence inferences	Lilly stood up and went to <b>her</b> mother. <b>She</b> stroked her mother's arm.  Frightened was the way he had felt a year ago when an unidentified <b>aircraft</b> had overflown the community twice. ...he had seen the sleek <b>jet</b> , almost a blur at its high speed, ....	Must realize that pronouns "she" and "her" refer to Lilly.  Must recognize that "jet" refers back to "aircraft"
2. Gap-filling inferences	I think I could steer by pulling the rope.	Must realize sleds pulling ropes attached to steering bar control sled direction
3. Antecedent causal inferences	Then all of the citizens had been ordered to go into the nearest building... Instantly, obediently, Jonas dropped his bike on the path. He had run indoors and stayed there.	Infer that something very serious is happening. Jonas just left his bike.

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## Classification of Inferences:

### text coherent

Name	Example	Explanation
Global	<p>Inferences about the theme, main point, or moral of a text.</p> <p>Memory is important to life</p> <p>There can be no pleasure without pain and no pain without pleasure.</p>	To create a coherent representation of the whole text, the reader would infer over-arching ideas by drawing on local pieces of information.

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## Logical Inferences

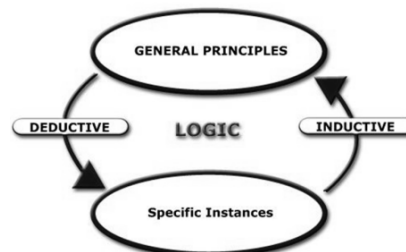
### Deductive

All mammals are warm-blooded and have fur. A tapir is a mammal. Is a tapir warm-blooded? Does it have fur?




### Inductive


This animal is warm-blooded. It has fur. It feeds its young milk. What kind of animal is it?



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**continued**


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## HOLES

### By Louis Sachar

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**continued**


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## Inferences

### Inductive

- Stanley's great-grandfather was robbed by Kissin' Kate Barlow in the desert.
- Stanley finds a metal tube.
- Stanley remembers his meeting with the Warden: her fingernail polish, her makeup kit... and... suddenly Stanley realizes the gold tube was of a tube of lipstick.
- Remembers inscription on the bottom of the tube ("KB")
- Lipstick might just have belonged to Kissin' Kate Barlow.

### Deductive

- Madam Zaroni curses Stanley's great great grandfather cause he didn't carry her up the mountain
- Zero's last name is Zaroni
- Zero could be related to Madam Zaroni
- Curse on Stanley's family removed after Stanley carries Zero up the mountain.

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## Classes of Inferences

- Anaphoric references: pronoun/noun-phrase that refers to previous text entity
- Bridging/relational: semantically or conceptually relating sentence to previous content
- Explanation-based/causal: explain what is read by a causal chain or network of previous events and states
- The warden scratched Mr. Sir. She was furious with him.
- Making the connection between the eating onions and not being bitten by lizards
- Stanley befriending Zero, carrying him up the mountain and saving his life breaks the curse of Madam Zaroni and brings the family good luck.

Snow, C. (2002). *Reading for understanding: Toward an R & D program in reading comprehension*. Rand Corporation.

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## Classes of Inferences

- Predictive: forecast what events will unfold
- Goal: infer intentions of agent
- Elaborative: properties and associations that cannot be explained by causal relationships
- Stanley will find Zero in the desert and they will run away from camp.
- The Warden is running the camp so she'll have help finding a treasure.
- The Warden's nail polish has rattlesnake venom in it. So when she scratches Mr. Sir, you must realize that the scratch will be more painful and harmful than an ordinary scratch

Snow, C. (2002). *Reading for understanding: Toward an R & D program in reading comprehension*. Rand Corporation.

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## Types of inferential processing

### Emotional states



How does the girl feel?  
Why?

### Intentionality/Mental states



What is this person thinking?

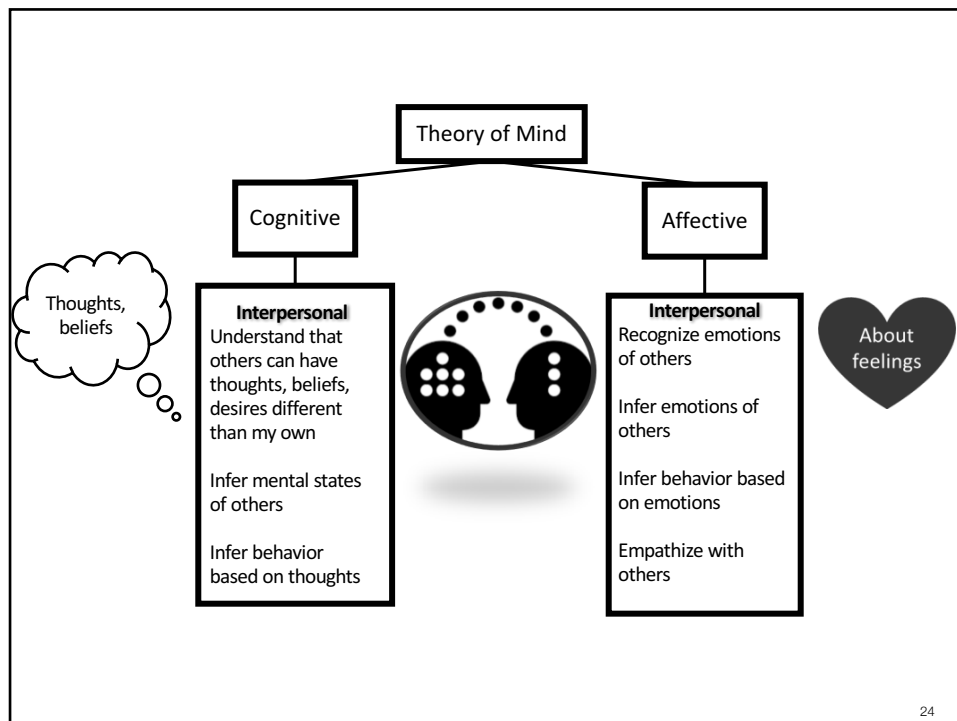
### Physical causality



Why is the snowman melting?

Sebastian, et al (2012). Neural processing associated with cognitive and affective Theory of Mind in adolescents and adults. *Social cognitive and affective neuroscience*, 7, 53-63.

23



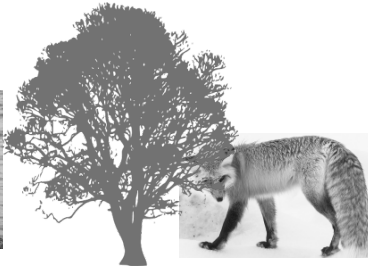
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### Silly Goose and Dizzy Duck

by Sally Grindley

Silly Goose and Dizzy Duck went for a walk in the woods. Suddenly, Silly Goose held onto Dizzy Duck's wing and said, "I think someone's following us."  
They looked around, but there was no one there. "Silly me, ' said Silly Goose. "I must be imagining things."



**Cognitive interpersonal ToM:** The goose doesn't know the fox is there but we do. We know fox's intention is to eat a goose and duck.  
**Affective interpersonal ToM:** We realize that goose is nervous/worried.

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## Difficulties inferring exhibited by students with language impairments

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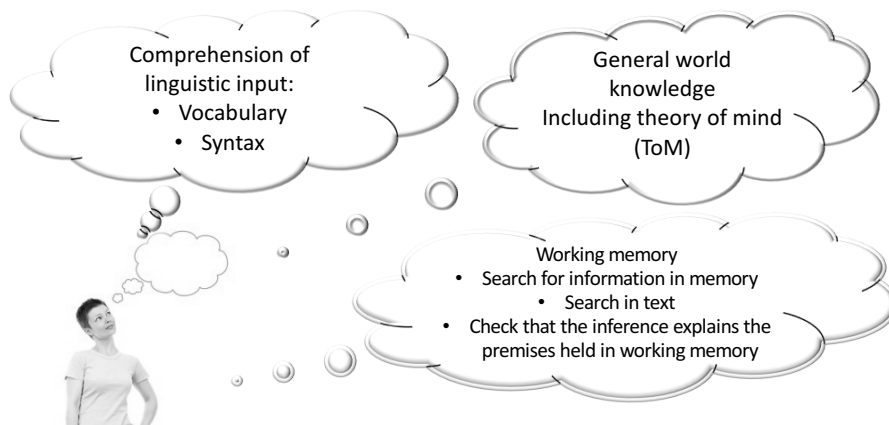
## Early Studies of LI and Inferring

On both verbal and visually presented stories, children with language impairments make fewer total inferences and more inference errors than typically developing children

- Bishop, D.V.M., & Adams, C. (1992). Comprehension problems in children with specific language impairment: Literal and inferential meaning. *Journal of Speech and Hearing Research*, 35, 119-129.
- Crais, E., & Chapman, R. (1987). Story recall and inferencing skills in language/learning-disabled and nondisabled children. *Journal of Speech and Hearing Disorders*, 52, 50-55.
- Ellis Weismer, S. (1985). Constructive comprehension abilities exhibited by language-disordered children. *Journal of Speech and Hearing Research*, 28, 175-184.

27

## Skills needed to make inferences



Karasinski, C., & Weismer, S.E. (2010). Comprehension of inferences in discourse processing by adolescents with and without language impairment. *Journal of Speech, Language, and Hearing Research*, 53, 1268-1279.

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### Inferring in 4 Groups of 8<sup>th</sup> Grade Students

Normal language group (NL)

- Normal vocab/syntax, world knowledge, working memory

Specific language impairment group (SLI)

- Normal world knowledge
- Deficits in vocab/syntax and working memory

Nonspecific language impairment group (NLI)

- Deficits in vocab/syntax, world knowledge, and working memory

Low cognition group

- Normal vocab/syntax
- Deficits in world knowledge and working memory

Karasinski, C., & Weismer, S.E. (2010). Comprehension of inferences in discourse processing by adolescents with and without language impairment. *Journal of Speech, Language, and Hearing Research*, 53, 1268-1279.

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continued



### Inferring in 4 groups of 8<sup>th</sup> grade students

- **Working memory** : All measures correlated highly with inference scores
- **Adjacent inference questions**
  - No difference between NL and LC groups
  - NL group better than SLI and NLI groups
- **Distance inference questions**

NL → LC → SLI → NLI

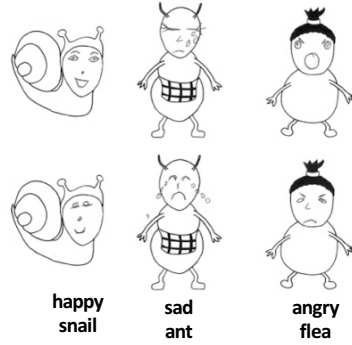
  - All groups of students had more difficulty with distant inference questions than adjacent inference questions

Karasinski, C., & Weismer, S.E. (2010). Comprehension of inferences in discourse processing by adolescents with and without language impairment. *Journal of Speech, Language, and Hearing Research*, 53, 1268-1279.

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### Inference in LI Children 6-10 years old

- Children with LI (6-10 years) have more difficulty with emotional inferences than TD children
- Children with LI make more errors of valence than TD children, e.g.,
  - TD same valence errors, e.g., sad for angry
  - LI different valence errors, happy for sad or angry



Vendeville, N., Blanc, N., & Brechet, C. (2015). A drawing task to assess emotion inference in language-impaired children. *Journal of Speech, Language, & Hearing Research*, 58, 1563-1569.

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### Inferential processing in ASD

#### Physical Causality



#### Best performance

Errors may be related to difficult integrating world knowledge with context/situation

#### Intentionality/Mental states



#### More errors

#### Emotional States



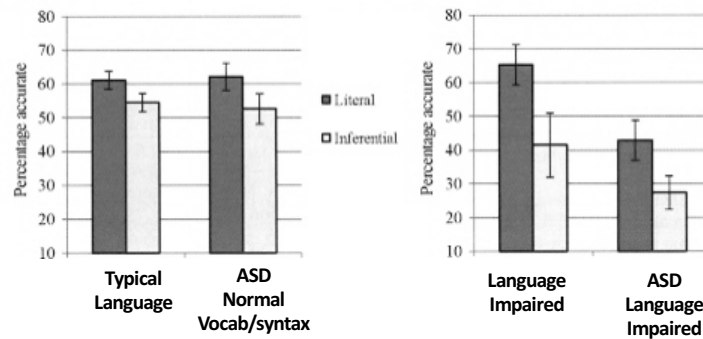
#### Most errors

Andy was only 2 years old. He was sitting on his mother's lap when a big dog ran up and licked him on the cheek. Andy's eyes got really big, and he started to cry. Why did Andy do that?

Bodner, K.E., Engelhardt, C.R., Minshew, N.J., & Williams, D.L. (2015). Making inferences: Comprehension of physical causality, intentionality, and emotions in discourse by high-functioning older children, adolescents, and adults with autism. *Journal of Autism and Developmental Disorders*, 45(9), 2721-2733.

32

### TD & ASD Answering Literal & Inferential Questions: 7-12 year olds



Lucas, R., & Norbury, C.F. (2015). Making inferences from text: It's vocabulary that matters. *Journal of Speech, Language, & Hearing Research*, 58, 1224-1232.

33

### Specific Difficulty in Inferencing

- 12.5% of TD children
- 33% of children with ALN
- 58% of children with LI
- 50+% of ALI children



Lucas, R., & Norbury, C.F. (2015). Making inferences from text: It's vocabulary that matters. *Journal of Speech, Language, & Hearing Research*, 58, 1224-1232.

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## Reading Comprehension in TD, ASD, ASD+LI

- Adolescents
- Nature stories that did not include social references or emotional content

Norbury, C., & Nation, K. (2011). Understanding variability in reading comprehension in adolescents with autism spectrum disorders: Interactions with language status and decoding skill. *Scientific Studies of Reading*, 15(3), 191-210.

### Questions answered correctly

	Literal	Inferential
<b>Typical Language</b>	70%	80%
<b>ASD Normal Vocab/syntax</b>	78%	69%
<b>ASD Language Impaired</b>	70%	50%

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## Working Memory, ASD, and Inferences (Adolescents 11-18 years)

- Fatima is going to work as a waitress this weekend. Her sister is sick and she is going to replace her. When Fatima was a child she sat all her dolls and pretended to be a waitress bringing glasses of water. Also, when asked what she wanted to be when she grew up, she always replied, "a waitress." On top of it, she is going to earn some money in a proper job.

Fatima was feeling excited

Fatima was feeling disappointed

Tirado, M.J., & Saldana, D. (2016). Readers with autism can produce inferences, but they cannot answer inferential questions. *J. Autism Dev Disorder*, 46, 1025-1037.

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## Working Memory, ASD, and Inferences (Adolescents 11-18 years)

- Isabel's boss has told her that she has to go to England for 4 months. She can't sleep since she received the news. She doesn't now how she will live there. She won't have her family nearby and, most important, she won't be able to talk to anyone because she doesn't speak English.

### Neutral sentences before inference

- Twenty years ago, people rarely studied English at school and students could choose to study other languages, such as French or German. But nowadays, to get a job, you must speak English.

Isabel was feeling unhappy

Isabel was feeling happy

Tirado, M.J., & Saldana, D. (2016). Readers with autism can produce inferences, but they cannot answer inferential questions. *J. Autism Dev Disorder*, 46, 1025-1037.

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## Working Memory, ASD, and Inferences (Adolescents 11-18 years)

- Fatima is going to work as a waitress this weekend. Her sister is sick and she is going to replace her. When Fatima was a child she sat all her dolls and pretended to be a waitress bringing glasses of water. Also, when asked what she wanted to be when she grew up, she always replied, "a waitress." On top of it, she is going to earn some money in a proper job.
  - Rank order emotions, e.g., happy, sad, satisfied, irritated
- But everything went wrong. Two people started screaming and fighting among themselves and she called the police. One customer was angry because she did not give him the correct change. In addition, Fatima stumbled and dropped the tray with a whole lot of glasses.
  - Rank order emotions

Tirado, M.J., & Saldana, D. (2016). Readers with autism can produce inferences, but they cannot answer inferential questions. *J. Autism Dev Disorder*, 46, 1025-1037.

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### Can a verbal inference task differentiate between:

**Children with language impairment (CwLI) and matched peers with typical language development (TLD) (6-11 years)**

**Children with specific language impairment (CwSLI) and children with pragmatic language impairment (CwPLI)**

Adams, C., Clarke, E., & Haynes, R. (2009). Inference and sentence comprehension in children with specific or pragmatic language impairments. *International Journal of Language and Communication Disorders*, 44, 301-318.

39

### Sentence Comprehension (SC) Task

- Child pointed to a picture (from a set of four choices) or written word on the test booklet (again from a set of four words read by the evaluator).
  - direct and indirect objects ("She gave the baby the book.")
  - passive comprehension ("The dog was splashed by the girl.")
  - embedded clauses (The crocodile that bit the lion was small.)
  - complex continuous past ("Which one have I already eaten?")

Adams, C., Clarke, E., & Haynes, R. (2009). Inference and sentence comprehension in children with specific or pragmatic language impairments. *International Journal of Communication Disorders*, 44, 301-318.

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### Inferential Comprehension (IC) task

- Picture of kitchen in aftermath of a burglary.
  - Householder and policewoman picture with clues
    - Torn piece of cloth
    - Footprint
    - Broken window
- Examiner read short text about picture
- Students asked 11 questions designed to tap inferring



Adams, C., Clarke, E., & Haynes, R. (2009). Inference and sentence comprehension in children with specific or pragmatic language impairments. *International Journal of Communication Disorders*, 44, 301-318.

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### Inferential Comprehension (IC) Questions

- Why was the dog barking?
- Why is the policewoman there?
- What happened when the burglar got into the house?
- What clues will the police find about who broke in? (prompt allowed)
- Why did the burglar break into the back of the house?
- How does the family feel now? (prompt allowed)
- How do we know it was the burglar who broke the window?
- Why do you think the burglar took only the watch?
- Why would someone steal something? (prompt allowed)
- What will the family do now because of the burglary? (prompt allowed)
- Should all theft be treated in the same way? (prompt allowed)

Adams, C., Clarke, E., & Haynes, R. (2009). Inference and sentence comprehension in children with specific or pragmatic language impairments. *International Journal of Communication Disorders*, 44, 301-318.

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## Comprehension in children with LI

All CwLI

- Made significantly more literal comprehension errors (didn't understand the question).
- Or failed to respond to more inference questions than their SC matched peers

CwSLI  
Vs  
CwPLI

- The CwSLI had significantly higher IC scores than CwPLI
- No significant differences between the types of inferences that CwSLI and CwPLI made

Adams, C., Clarke, E., & Haynes, R. (2009). Inference and sentence comprehension in children with specific or pragmatic language impairments. *International Journal of Communication Disorders*, 44, 301-318.

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## Comprehension in children with PLI

CwPLI

- CwPLI performed more poorly on developmentally more complex inference items
- Did not make significantly more odd or wrong inferences than CwSLI
- Had significantly lower inferential scores than their CA and SC matched groups.

Adams, C., Clarke, E., & Haynes, R. (2009). Inference and sentence comprehension in children with specific or pragmatic language impairments. *International Journal of Communication Disorders*, 44, 301-318.

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## Central Coherence

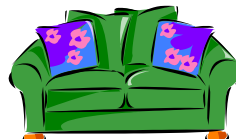
- Ability to derive overall meaning from a mass of details
  - A person with strong central coherence, looking at an endless expanse of trees, would see “the forest.”
  - A person with weak central coherence would see only a whole lot of individual trees.



Frith, U., 1989. *Autism: Explaining the Enigma*. Blackwell, Oxford.

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## Central Coherence important for inductive inferences



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### Inferences by 4-7 year olds (TD & ASD) in narrative comprehension

- It's Susie's birthday party tomorrow. Susie and her Mum go to the supermarket to buy food for the party. Susie really hopes Mum buy her a chocolate cake. They get a cake, some candy, and some chips. Then they pay the cashier. Susie leaves the store smiling and feeling happy. And they take the food home.

Question type	Inference type	Question	Answer
Factual		Where do they first go in the story?	To the supermarket
Propositional	Deductive	Why was Susie happy when they left the store?	Her Mum bought a chocolate cake.
Script	Inductive	Why did they give money to the cashier?	To buy the food

Nuske, H.J., & Bavin, E.L. (2011). Narrative comprehension in 4-7-year old children with autism: testing the weak central coherence account. *International Journal of Language and Communication Disorder*, 46, 108-119.

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### Inferences by 4-7 year olds in narrative comprehension

- Children with ASD and typical children **performed similarly** on factual and propositional questions
  - Propositional inferences require integrating information within the text
- Children with ASD performed **less well** on script inferences than typically developing children
  - Supports weak central coherence theory, i.e., problems integrating information to make script inferences

Nuske, H.J., & Bavin, E.L. (2011). Narrative comprehension in 4-7-year old children with autism: testing the weak central coherence account. *International Journal of Language and Communication Disorder*, 46, 108-119.

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## Category Induction in ASD % of Group



These  
snakes  
have gray  
eyes



Look at this snake. Do  
you think it has gray  
eyes like these snakes  
or blue eyes like these  
snakes



These  
snakes  
have blue  
eyes



	TD	Optimal	HFA
Perfect 6/6	17.3	16.7	15.4
Almost perfect 5/6	52.2	27.8	23.1
Consistent 4/6	26.1	38.9	38.4
Moderate 3/6	4.3	16.7	15.4
Nonextender	0	0	7.7

Naigles, L.R., Kelley, E., Troy, E., & Fein, F. (2013). Residual difficulties with categorical induction in children with a history of autism. *J Autism Dev Disord.* 43, 2048–2061.

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## Strategies to Promote Inferring

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## What to do to Develop Inferring

Activate prior knowledge/build knowledge

Develop vocabulary/syntactic structures

Develop theory of mind

Teach questioning

Teach summarizing

Kispa, A. (2008). Effective teaching of inference skills for reading: A literature review. (DCSF Research Report 031). London.

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## Activate and Build Prior Knowledge

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**continued**

American Board of  
Child Language &  
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Cinderella CTR  
by  
Rick Walton



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**continued**

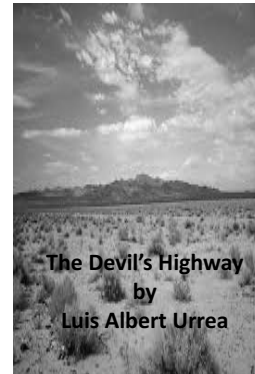
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Language Disorders

**HOLES**  
By Louis Sachar

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Urrea's book, a Pulitzer Prize finalist, chronicles the attempt of 26 men to cross the Mexican border into the United States in the spring of 2001, which resulted in the deaths of 14.

The book received critical acclaim with *The Atlantic* describing it as "the single most compelling, lucid and lyrical contemporary account of the absurdity of U.S. border policy."



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## Background Knowledge

- Desert environment
- Reasons people migrate
- Attitudes about migrants
- Border patrol functions
- Myth/Biblical allusions (Moses in the wilderness)



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## Develop Vocabulary, Morphology & Syntactic Structures

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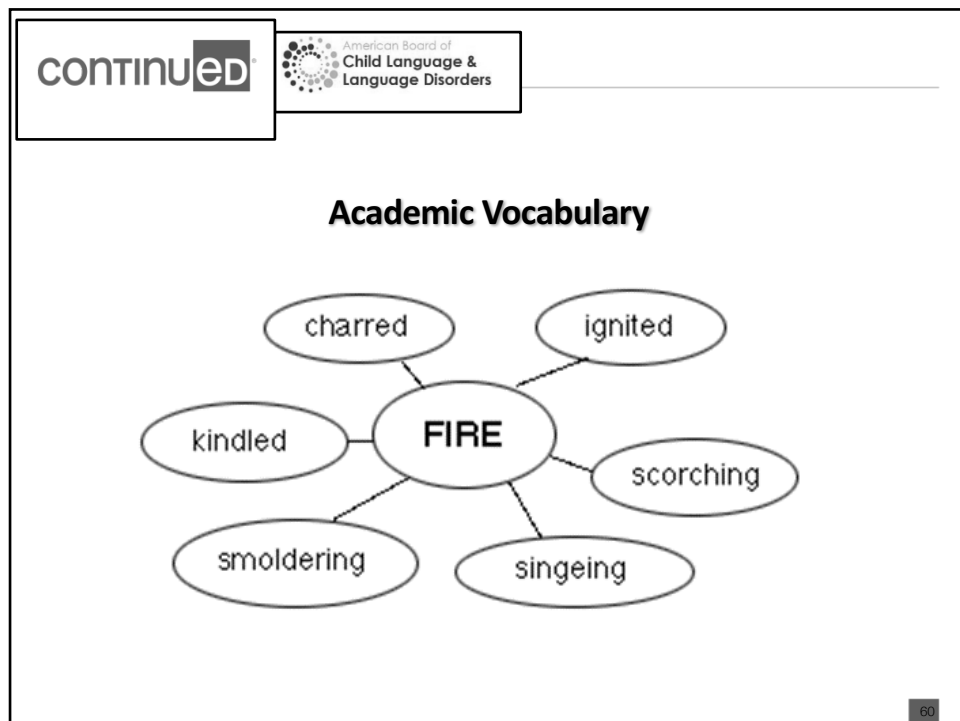
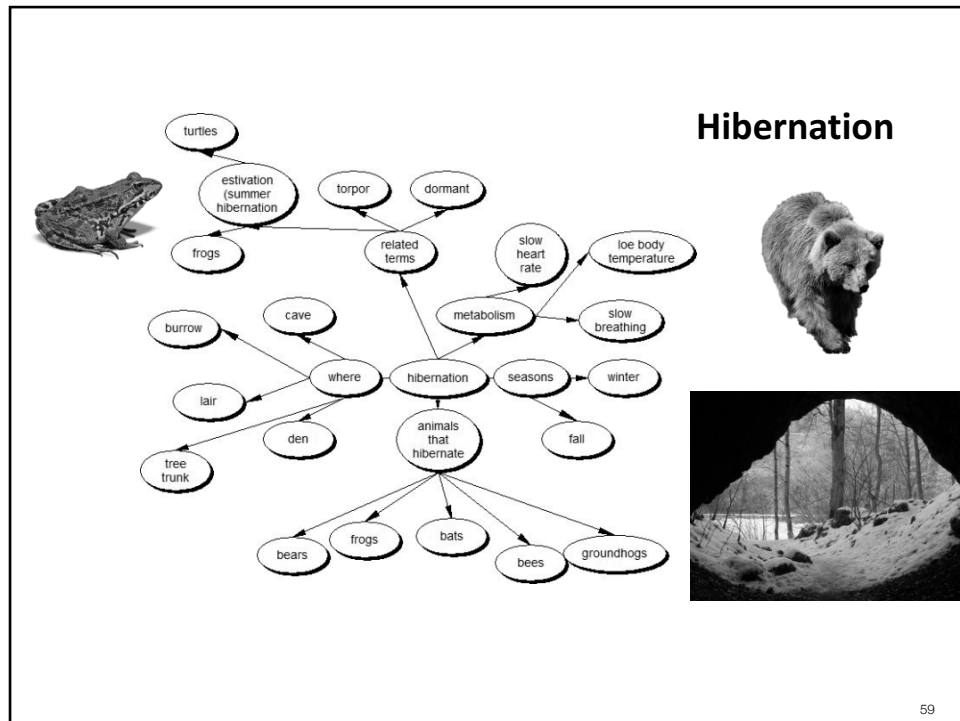



### Depth of Vocabulary and Inference Processing


- Types of vocabulary measures
  - Breadth of vocabulary: number of words known
  - Depth of vocabulary: amount of knowledge about a word
- Particularly important to make **inductive** inferences
  - Teacher, friends, play, learn, books, math --- school
  - Type, keyboard, internet, email, printer, mouse --- computer
- Depth of vocabulary affects inferences at global level **even more** than at local levels

Oakhill, J., Cain, K., McCarthy, D. (2015). Inference processing in children: The contributions of depth and breadth of vocabulary knowledge. In E. O'Brien, A. Cook, & R. Lorch (Eds.), *Inferences during reading*. New York: Cambridge.

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### Build Vocabulary Depth


Identify  
important  
words in the  
passage


Activate  
important  
facts about  
those words

Reason about  
those facts,  
drawing  
attention to  
relationships  
among the  
words

Hannon, B., & Daneman, M. (1998). Facilitating knowledge-based inferences in less skilled readers. *Contemporary Educational Psychology*, 23, 142-172.

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**COBUILD**  
Learner's  
American English  
Dictionary

**COBUILD**  
Advanced  
American English  
Dictionary

<https://www.collinsdictionary.com/dictionary/english>

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## Teaching Vocabulary

Word	Dictionary Definition	Friendly Definition
<b>Protrude</b> He was able to lift Zero high enough for him to grab the <b>protruding</b> slab of rock.	extend out or project in space	If something protrudes from somewhere, it sticks out.
<b>Writhe</b> His body writhed in agony.	move in a twisting or contorted motion	If you writhe, your body twists and turns violently backwards and forwards, usually because you are in great pain or discomfort.
<b>Predatory</b> The yellow-spotted lizards like to live in holes, which offer shade from the sun and protection from <b>predatory</b> birds.	living by preying on other animals	Predatory animals live by killing other animals for food.
<b>Grimace</b> He <b>grimaced</b> as he sliced off a chunk of dirt, then raised it up and flung it onto a pile	contort the face to indicate a certain mental state	If you grimace, you twist your face in an ugly way because you are annoyed, disgusted, or in pain.

63

## Vocabulary Instruction

- Contextualize word for its role in the story
- Have children repeat word so they create a phonological representation
- Explain the meaning of the word
- Give examples in contexts other than the story.
- Children provide their own examples
- Children say word again to reinforce its phonological representation

Beck, I.L., McKeown, M.G., & Kucan, L. (2013). *Bringing words to life*. New York: Guilford.

64

## Teach Vocabulary in Thematic groups

- The black widow spider
  - widow, prey, poisonous, scamper, fluid
- The American colonies
  - colony, independence, migrate, settlers, trade
- Whales
  - adapt, agile, depths, docile, frolic, glide, tragic, treacherous, vicious



Bowers, L. (2011). *Word feast - elementary*. Pro-Ed: Austin, TX.

Johnson, P. (2011). *Word feast – middle school*. Pro-Ed: Austin, TX.

Johnson, P. (2014). *Word feast - adolescent*. Pro-Ed: Austin, TX

65

## Teach Vocabulary in Thematic groups

### SERP Word Generation Program

- Program to teach academic vocabulary language, discussion, argumentation, and thinking skills to students in 4th-8th grades
- Words are taught in multiple contexts over 5-10 lessons
- Available free: <http://wordgen.serpmedia.org>

66

### Should Schools Protect Kids from Cyberbullying?

- The internet offers new ways for people to engage in bullying and **harassment**. People who are usually kind may discover an **underlying capacity** for meanness when they are online, where they feel **anonymous**. Some people suggest rules to help others to remember to be kind. For example, "Don't say something online that you wouldn't say in person." Is this rule **adequate**? What are some other good rules for online interactions?

67

### Use the focus words

- **anonymous** (adjective) not named or identified
  - Sample Sentence: Since many of the harmful comments come from **anonymous** sources, teachers and principals are unable to determine who the cyberbullies are.
  - Turn and Talk: Describe a situation when you would want to write an **anonymous** note.
- **underlying** (adjective) fundamental but not revealed or expressed
  - Sample Sentence: When a child is having problems in school, cyberbullying can be an **underlying** cause.
  - Turn and Talk: What could be some **underlying** reasons that a student refuses to participate in P.E.?

68

VIDEO 1

When Stanley stole the truck  
Stanley felt excited  
but because  
he was finally getting away

you eat lots of onions  
if  
the lizards won't eat you

VIDEO 2

69

**continued**

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**Theory of Mind &  
Syntactic Structures**

70

**Nonsocial Emotion Words**

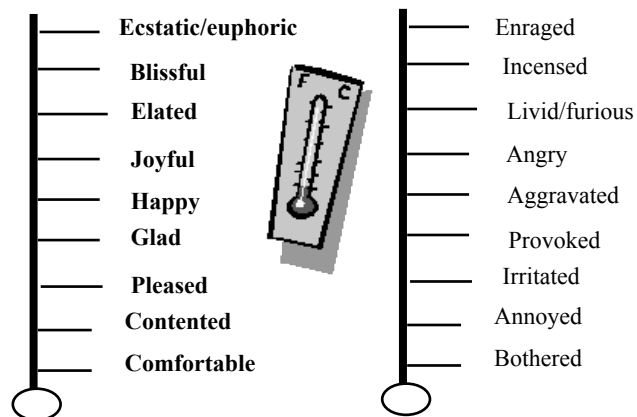
Nonsocial emotions require only the awareness of one's own physical state

Universal nonsocial emotions

- Happy
- Sad
- Mad/angry
- Surprised
- Disgusted
- Afraid



71

**Emotional Thermometers**

72

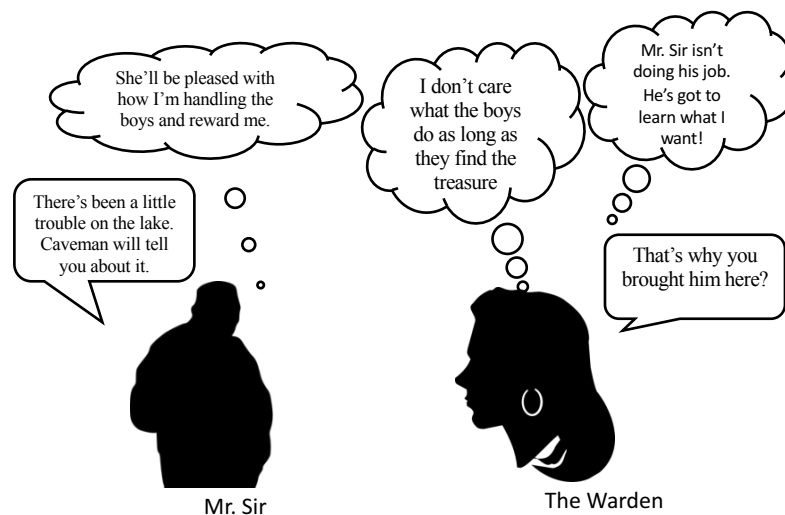


## Internal States Inference Chart

Characters	When	Feeling	Why
Stanley	Zero was looking over his shoulder when he was writing to his mother	annoyed	he didn't want Zero to see what he was writing
Stanley	X-ray takes the lipstick tube and turns it in	frustrated	Stanley found the tube so he should get a day off
Zero	He finds his mother	relieved, thrilled, happy	He thought she might have died or that she didn't want him
The Warden	Stanley's lawyer finds the boys in the hole	worried	Because the authorities will learn how she has been using the boys and she could go to jail

73

## Predicting Dialogue &amp; Thoughts



74

## Perspectives

Stanley	Events	Mr. Sir
Thirsty, thinks Mr. Sir is offering him a drink	Arriving at Camp Green Lake	Intends to taunt Stanley by drinking in front of him
Worried cause boys threw seeds in his hole. Lies to protect friends	Stanley says he stole Mr. Sir's sunflower seeds	Doesn't believe Stanley. Decides to have warden deal with him.
Frightened – what might the warden do to him	Warden scratches Mr. Sir	Surprised, angry; didn't expect this
Disappointed they're not going after Zero, then worried	Zero runs off. Warden/Mr. Sir don't go after Zero; destroy Zero's records	Indifferent to Zero; just don't want anyone to know he went missing
Wants to save Zero; frustrated & scared, but determined when truck falls in hole	Stanley runs the truck in a hole; then runs off into the desert	Initially furious; then worried if someone discovers he's missing
Relieved that they haven't been bitten and that they may be rescued	Stanley and Zero in hole with lizards, but lizards haven't bitten; lawyer arrives	Apprehensive about what lawyer will ask and what she knows about him

75

## Other Emotion Categories

- Social emotions - depend upon the thoughts, feelings or actions of other people

- Embarrassment
- Guilt
- Shame
- Jealousy
- Envy
- Pride



- Children with ASD can cite examples of pride, guilt, embarrassment; but stereotyped, less personal, e.g.,

- Pride: finish homework, win game
- Guilt: stealing cookies, running away
- Embarrassment: being teased



Hobson, R.P. (2014). Autism and emotion, In F.R. Volkman, et al (Eds.) *Handbook of autism and pervasive developmental disorders*, Vol. 1. Hoboken, NJ Wiley.

76

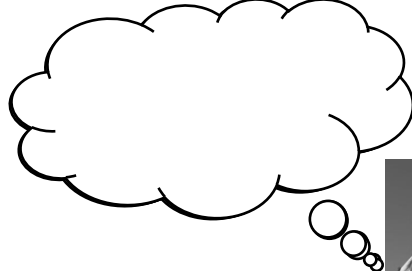
## Not Understanding Jealousy

### VIDEO 3

77

## Counterfactual Reasoning

- Thinking about how an event might have turned out differently
  - Envision a different future – future mental time travel
- Enables us to learn from our mistakes



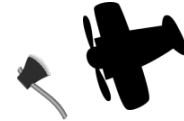
If I hadn't been texting, I wouldn't have wrecked the car.  
If I turned off my phone in the car, I wouldn't be tempted to use it.

78

## Counterfactual Reasoning

- Types of counterfactual reasoning:
  - Additive
    - *If Brian had found the transmitter when the plane crashed, he would have been rescued sooner.*
  - Subtractive
    - *If the pilot had not had a heart attack, the plane would not have crashed.*
- Changes with age:
  - Children with high-functioning ASD had increased subtractive reasons
  - Control children had increased additive reasons

The Hatchet  
by  
Gary Paulsen



79

## Inferring from video

Watch how [X's] body moves and think about what those movements tell you.

Watch [X's] face – it's going to tell you something important

Make sure [X's] body matches what she's saying – remember it might not.

Watch [X] when he's listening to [Y]. You'll see [X's] reaction to what [Y] is saying.

Listen to how [X] says that. Why did [X] say it that way?

Vagin, A. (2013). *Movie time social thinking*. Santa Clara, CA: Social Thinking.

80

## Sentence Frames for Expressing Emotional Relationships

### VIDEO 4

Character	When	Emotion	Why (because)
Loki	he hears Thor say he can't trust Loki	ashamed	he broke the relationship between him and Thor

81

## Promoting Questioning

82

## Promoting Questioning

- Model how to formulate different types of questions
- Model higher level questions that require using textual cues and prior knowledge
- Ask students to reflect: How does this question help us understand the text
- Provide question starters, e.g., “Why do you think...?”

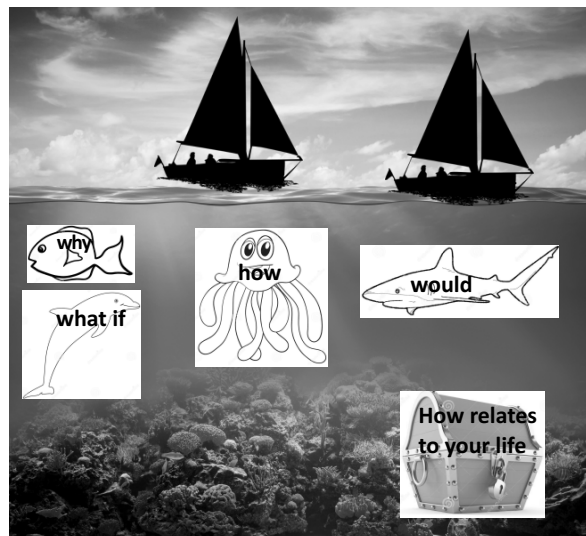
Oczkus, L.D. (2010). *Reciprocal Teaching at work*. Newark, DE: International Reading Association.

83

### On the surface questions

Idea from:  
Zwiers, J. (2010). *Building reading comprehension habits in grades 6-12: A toolkit of classroom activities*.  
Newark, DE: International Reading Association.

### Under the surface questions



84

## Question-Answer-Relationships



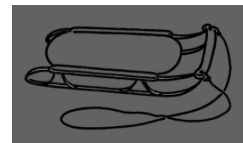
- Where is the answer?
  - Right there!  
Words are right there in the text
- Where is the answer?
  - Think and search!  
Words are in the text, but not spelled out for you. Think about what the author is saying.
- Where is the answer?
  - You and the author!  
Think about what you have learned and what is in the text.
- Where is the answer?
  - On your own!
  - Answer is in you head.

Raphael, T.E. (1986). Teaching question/answer relationships, revisited. *The Reading Teacher*, 39, 516-522.

85

## QAR (Question-Answer-Relationships)


### *The Giver by Lois Lowry*



- **Right there**
  - What is one of the rituals in Jonas' community?
    - Answer: the evening telling of feelings
- **Think and search**
  - Who does Jonas mention as his friends in the community?
    - Answer: Asher, Fiona, and later, the Giver (on three different pages)
- **Author and you**
  - Why doesn't the community allow more than three books?
    - Answer: Reading books gets people to think and wonder and consider possibilities beyond their own experiences. For Jonas's community to continue to work as it has been, the people need to be content with what they have and not think or wonder too much.
  - What does the red sled symbolize?
- **On you own**
  - Which do you think is more important -- freedom or security?

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**continued**

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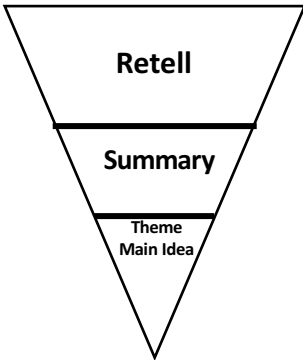
# Summarizing

87

**continued**

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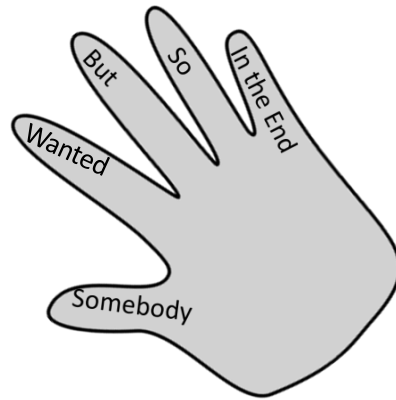
Summarizing  $\neq$  retelling



88



## The five finger narrative summary

**Based on *Holes***

**Stanley**, was sent to Camp Green Lake, a juvenile detention facility, because he was found guilty of stealing shoes (although he wasn't guilty). He

**Wanted** to befriend Zero another "camper" and teach him to read in exchange for Zero's digging Stanley's holes.

**But** Zero and Stanley got into trouble for this and a guard taunted Zero. Zero became furious and ran out into the desert.

**So** Stanley ran out into the desert to find Zero because he was afraid Zero could die.

**In the end** Stanley found Zero. They came back to camp, found a treasure chest belonging to Stanley's great grandfather, and were released from camp when Stanley's lawyer had proof they weren't guilty.

89

## Summarizing in social studies

Somebody	Wanted	Because	But	So
President Thomas Jefferson	wanted to purchase a large amount of land in the middle of the continent	because he felt uneasy about France and Spain having the power to block American trade	he did not know anything about the land he bought	he commissioned Lewis and Clark the expedition was to explore the area and learn more about the Northwest's natural resources, inhabitants, and possibilities for settlement
Martin Luther King	wanted to end racial segregation and discrimination	because Blacks were not treated fairly	he did not want to do this in a violent way	he used civil disobedience such as having people boycott riding buses

90

## Summarizing frame for nonfiction/non-narrative texts

<b>Something</b> (independent variable)	Heavy rains	Farmers wanted to stop bugs from eating their crops, so they sprayed them with pesticides
<b>Happened</b> (change in that variable)	Washed away the soil	Small birds ate poisoned bugs and falcons ate small birds
<b>And</b> (effect on dependent variable)	Making it nearly impossible	DDT caused the falcon egg shells to be thin so they broke when the mother falcon sat on them
<b>Then</b> (conclusion)	For plants to grow there	Farmers stopped using DDT

91

## Brown Bears and Polar Bears

Bears are found throughout the world. Two main types are brown bears and polar bears.

Brown bears live in mountains and forests. Their fur is blonde, brown, or black. The tips of their fur are gray, giving them a grizzled look. This is why they are sometimes called grizzly bears. It also helps them hide in the shrubs and trees where they live.

Polar bears live on frozen tundra by the ocean. It is difficult to live there. It is mostly cold and dark and there are very few plants and animals. In order to survive, the polar bear has adapted in special ways. The skin of the bear is black. This draws every bit of possible heat from the sunlight. The bear's hairs appear to be white, but they actually clear. Below these hairs are orange or yellow, "underhairs".

Brown bears are omnivores. They eat some meat, but mostly they eat plants. This includes grasses, bulbs, seeds, berries, and roots. They will also eat insects, fish, and small mammals. Some bears eat large animals, including moose, caribou, and elk.

Polar bears are also omnivores. They eat some plants, but of all bears, the polar bear eats the most meat. Polar bears hunt seals. Seals must make holes in the ice so they can come up to breathe. The bears will sit near these holes for hours waiting to capture the seals.

92

## Wildfires

Wildfires are fires that are large and out of control. People should do everything they can to prevent wildfires.

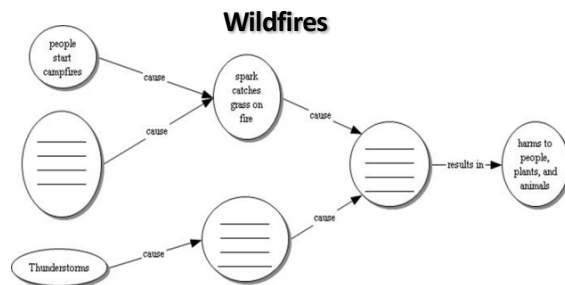
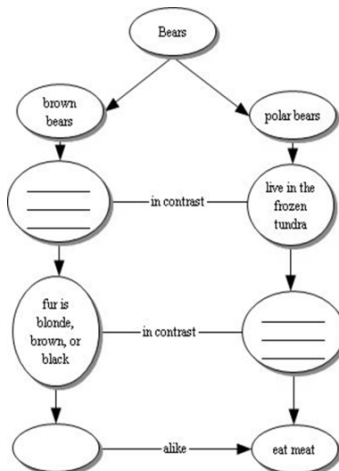
People need to be careful when using fire. If people start a campfire then a spark may spread and catch dry grass on fire. People also need to be careful when lighting fireworks because the sparks from the fireworks can also catch the nearby grass on fire. Sparks from campfires or fireworks can cause a wildfire.

Not all wildfires happen because of people. A thunderstorm may cause lightning to strike the dry ground or a nearby tree. As a result, a wildfire can start.

Whether a wildfire is started by people or a storm, it can be very dangerous and may result in harm to people, plants, and animals.

93

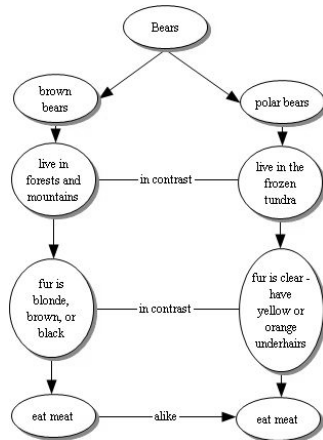
### Frameworks for Expository Summaries



Westby, C.E., Culatta, B., Lawrence, B., & Hall-Kenyon, K. (2010). Summarizing expository texts. *Topics in Language Disorders*, 30, 275-287.

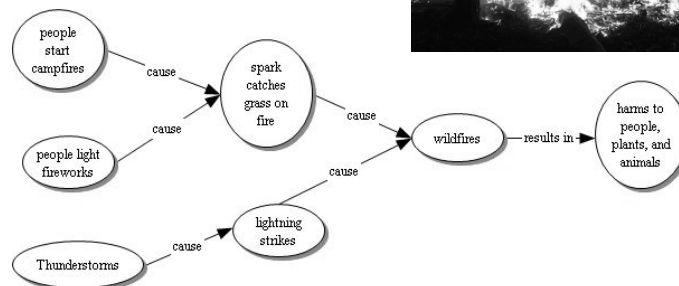
94

## Bears



95

## Wildfires



96

	A. Gist, topic/key sentence, main idea	B. Text Structure	C. Signal Words	D. Content (quantity, accuracy, and relevance)	E. Sentence Structure
0 None	No links to topic	Random ideas	No signal words	Statements not related to passage	Phrases, incomplete sentences
1 Little/few/some					
2 Many/most					
3 All					
4 Best	Introductory sentence signals text organization/content	Organized text with clear structure	Variety of advanced signal words (e.g., similarly, on the other hand)	All relevant ideas clearly and accurately represented	Complete, complex sentences with multiple dependent clauses

Westby, C.E., Culatta, B., Lawrence, B., & Hall-Kenyon, K. (2010). Summarizing expository texts. *Topics in Language Disorders*, 30, 275-287. A version of this is also available in Lundine, J. et al (2018). Adolescent summaries of narrative and expository discourse: Differences and predictors. *LSHSS*, 1-18.

97

### 0 points in rubric

If you're trieing to start a fir by prepared to bring sum water.

Polar bears diggin there to look for babi sils

98

continued



### 4 points in rubric

Brown Bears and Polar Bears are dislike and alike in these way. Brown bears live in mountains and forests **however** Polar Bears live in the frozen tundra. Brown bears fur is blonde, brown, or black. **But** Polar bears fur looks white **but** is really clear. **Although** *they are different in these ways* they are alike **because** *they both eat meat.*

Wildfires are dangerous **because** *there hard to put out.* A wildfire may be started by people **when** *they start campfires* and a spark spreads to dry grass catching it on fire. Another way is **when** *people lighting fireworks* and a spark also catches it on fire. A natural way is **if** *lightning strikes a tree or dry grass.* Any way it starts, **if** *it's not taken care of* it may turn into a wildfire **wich** *may hurt people, plants, and animals.*

99

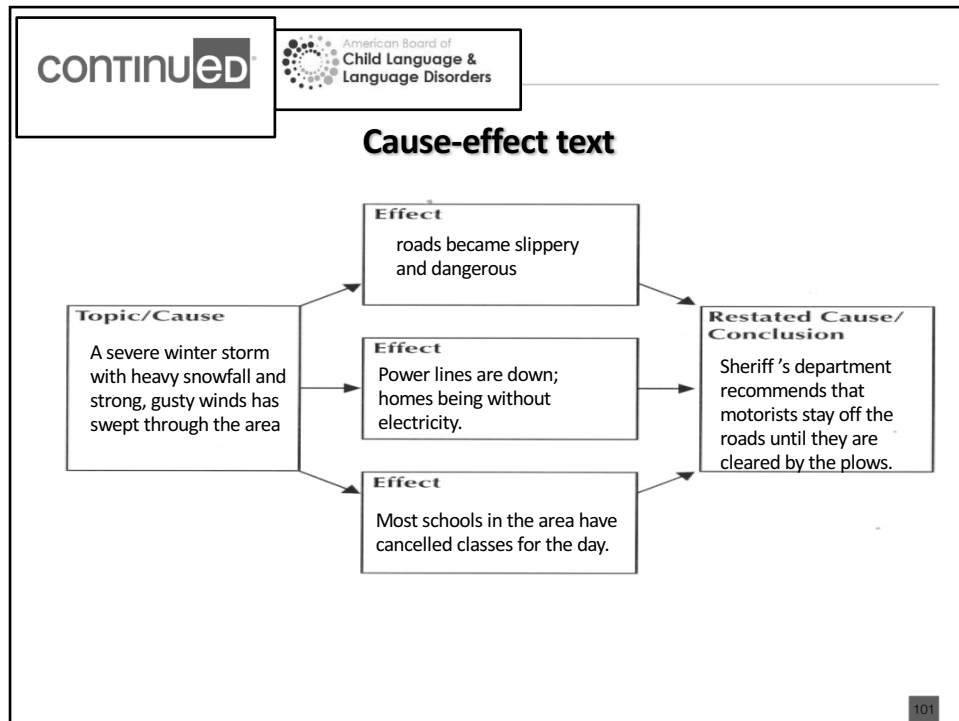
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### Cause-effect text

“Good morning, this is a breaking weather report from Station S-P-U-D. I am chief correspondent, Common Tater. A severe winter storm with heavy snowfall and strong, gusty winds has swept through the area, causing roads to become slippery and dangerous. Power lines are down, which has resulted in many homes being without electricity. Most schools in the area have cancelled classes for the day. The sheriff ’s department is recommending that motorists stay off the roads until they are cleared by the plows. Stay tuned to this station for further updates. This is Common Tater, with an eye on news for you.”

100



**continued**


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### Cause-effect text

In this news report, \_\_\_\_\_

\_\_\_\_\_ caused many problems.

Some of the effects were \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ and \_\_\_\_\_

Common Tater advised people to \_\_\_\_\_

\_\_\_\_\_

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**Cause-effect text**

In this news report, a severe winter storm with heavy snowfall and strong, gusty winds has swept through the area. The storm caused many problems. Some of the effects were the roads became slippery, power lines came down so houses lost power, and schools were closed. Common Tater advised people to stay off the roads until the plows cleared them.

103

## Topic: The Sinking of the Titanic

**Cause**  
traveling too far north and too fast into  
waters filled with icebergs.


**Cause**  
hull was damaged by icebergs, water  
filled the ship until it sank


**Cause**  
not enough lifeboats for everyone

**Effect/Conclusion**  
Only 700 people survived.  
The sinking of the Titanic is  
one of the worst disasters in  
history.


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**Scientific Genre**



105





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## Bringing it all together with think-alouds

106

## Promoting Inferring

- Model predictions using think-alouds and text cues
- Ask students to preview illustrations and headings and think about what they will learn from text
- Use what you know about text structure to predict
- Periodically summarize what has happened so far and add, "Now I think... because...."

Oczkus, L.D. (2010). *Reciprocal Teaching at work*. Newark, DE: International Reading Association.

107

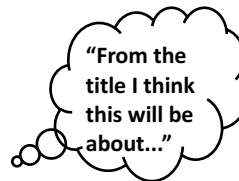
## Strategies to Build Inferential Comprehension Think Aloud

Students read silently as teacher reads aloud.



Teacher *thinks* through tricky spots and

Make predictions:



108

## Think Aloud

Teacher *thinks* through more difficult parts of the text and

Describes the pictures you form in your head about the information.

Outside the storm grew worse. Still shaking, Ben picked up the receiver and held it to his good ear. He hesitated then dialled the number. He slid the bookmark between the pages of the book.

"I have a picture of this scene in my head and this is what it looks like...."



109

## Think Aloud

Make connections explicit:  
Show how to link prior information stated in the text to new information in text. "I remember about....and now...."

The description on the wolf exhibit at the museum says the scene is at the margin of Gunflint Lake, MN. I remember at the beginning of this book that Ben is from there. Had the person who created this exhibit been at Gunflint Lake. Maybe it was the Daniel that Ben is looking for.



110

continued



## Think Aloud

Demonstrate fix-up strategies:  
Show how to make sense of the passage.  
“I’d better reread.” or “I’ll read ahead  
and see if I can get some more  
information.”



111

continued



## Model Think-aloud

Video 5

112

## Questioning the Author

**Goal:**  
**Initiating queries**

**What is the  
author trying to  
say here?**

**What do you think  
the author wants  
us to know?**

**What is the  
author talking  
about?**

Beck, I.L., McKeown, M.G. (2006). *Improving comprehension with questioning the author*. New York: Scholastic.

113

## Questioning the author: Follow-up queries



So what does the  
author mean right  
here?

That's what the  
author said, but  
what did the  
author mean?

Does this make  
sense with what  
the author told us  
before?

How does this  
connect to what  
the author told us  
earlier?

Why do you think  
the author tells us  
about this now?

114

continued

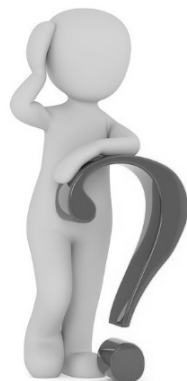


## Questioning the author

Video 6

115

continued



Children must be  
taught  
HOW TO THINK,  
not what to think.  
*- Margaret Mead*

116