Comprehension and Literacy for Students with Autism Spectrum Disorder
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August 1, 2012

Literacy for the 21st Century

Literacy is a not a luxury,

it is a right and responsibility.

Bill Clinton

Video-Information Literacy and Engaging the 21st Century Learner (2nd ed.)

Big Ideas for Special Education

- Focuses on knowing how to make a student more successful rather than on only validating that the student is sufficiently unsuccessful to warrant additional resources.

- The question becomes - what enables learning?

- A continuation of the problem solving process, not the goal of it.

Big Ideas for Special Education

- Consider when additional resources (beyond general education supports) are needed to sustain or improve the intervention(s) being provided in order to assure FAPE.

- Require evaluating the effects of current and past interventions to determine whether
  - an appropriate instructional plan has been identified
  - the student remains significantly discrepant from peers or educational expectations

Implications for Students with ASD

- Greater academic demands
- Many regular educators do not have special education experience or education
- Experienced special education teachers may need additional preparation to work effectively with students who have ASD
- Students with ASD tend to have a wide scope of abilities
- Educators learning the specific strategies that work for each student is critical to helping students with autism become independent, capable readers and learners
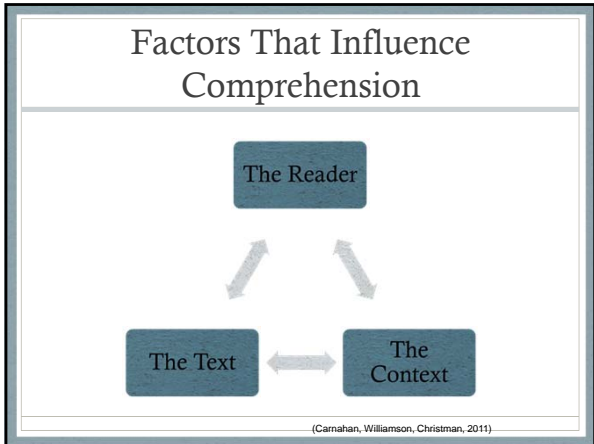
Reading Comprehension

Reading comprehension is an intentional, active, interactive process that occurs before, during and after a person reads a particular piece of writing.

Without comprehension, reading is nothing more than tracking symbols on a page with your eyes and sounding them out.

Joelle Brummitt-Yale

Factors That Influence Comprehension

The Reader

The Text → The Context

(Carnahan, Williamson, Christman, 2011)

The Reader

- Attention
- Memory
- Information Process:
  - Planning and Organization
  - Ability to recognize perspectives of and empathize with characters in a story
  - Background knowledge related to the text
  - Interest in text topic
  - Word knowledge

(Carnahan, Williamson, Christman, 2011)

The Context

- Purpose for reading
- Environmental organization (physical organization, visual supports, group size, etc.)
- Environment or internal distraction
- Student comfort level

(Carnahan, Williamson, Christman, 2011)

The Text

- Text Type (e.g., narrative, expository)
- Content
- Readability Level (including complexity of vocabulary and sentences)
- Picture Support
- Text Length

(Carnahan, Williamson, Christman, 2011)

Children with ASD tend to focus on details and interpret information in a fragmented manner; they misperceive the intentions of others and become 'stuck' in one mode of thinking and behaving

Quill (2000)

Understandings needed to Obtain Reading Comprehension

- Author's vocabulary
- Style of writing
- Story structure
- Characters' social experiences and how these contribute to the development of motivations, goals, and actions within the story
- Develop sensitivity to the emotions of the characters and how emotions play a role in character's choices

(Gately, 2008)

Challenges for Reading Comprehension

- Challenge to integrate language, social understanding, and emotional intent of messages
- Deficits in language and social cognition
- Difficulty interpreting and labeling emotions
- Difficulty integrating aspects of communication to gain meaning in social situations

(Gately, 2008)

Challenges for Reading Comprehension

- Intuiting the motivation of characters and appreciating their intent are higher level comprehension skills which may be difficult for students with ASD. (Gately, 2008)

Interfering Characteristics of ASD

- Emotions
- Theory of Mind
- Central Cohesion
- Executive Functioning

Connecting Emotion to Comprehension

Video- From Emotion to Comprehension with Stanley Greenspan and Lindamood-Bell

Theory of Mind

- The *theory of mind is the ability to form representations of other people's metal states and to use these representations to understand, predict, and judge utterances and behavior. Impairment in theory of mind is theorized to be a symptom of autism, resulting in difficulties in making inferences and understanding perspectives, an important part in understanding texts*

  (Baron-Cohen, Leslie, & Firth, 1985)

Theory of Mind (TOM)

- Ability to make inferences about the emotional states of others (Baron-Cohen, Leslie, & Firth, 1985)

- Ability to infer the full range of mental states of others and the ability to reflect on one's own and other's actions (Baron-Cohen, 2001)

- Recognizing that other's perceptions and feelings are different from our own (Carnahan et al., 2011)

Theory of Mind

Video- Baron Cohen on Autism (excerpt)

Interference of TOM on Reading Comprehension

- Difficulty understanding the motivation of characters
- Predicting what characters will do based on emotional states
- Literal understanding of the world that translates to a literal understanding of the text

(Carnahan et al., 2011)

Interference of TOM on Reading Comprehension

- Understanding what others are thinking
- Understanding deception, metaphors, sarcasm, jokes, and irony
- Developing one's imagination which may contribute to the difficulty with higher order understanding of narratives

(Baron-Cohen, 2001)

Interference of TOM on Reading Comprehension

- Difficulty making inferences and comprehending information that is not factual (Saldana & Firth, 2007)

- Failure to take on character's perspective

Central Cohesion

Video - Professor Uta Frith

Video - Weak Central coherence theory

Impact of Weak Central Coherence

- Attention to detail rather than the whole

- Difficulties relating big idea with details

- Attend to detail or step of routine rather than

- Difficulty pulling information together for a higher-level meaning, often resulting in meaning being created in pieces, at the expense of contextual understanding

- Difficulty understanding the overall narrative of a story, with a stronger recall of specific details

Executive Functioning

Video - Dr. Russell Barkley – ADHA Intention Deficit Disorder

Interventions for Children with Executive Skills Deficits

Children with developmental executive skill deficits also fit this developmental progression from **external** to **internal**.

Children with underdeveloped executive skills can be supported in one of two ways:

1. By intervening at the *Level of the Environment.*

2. By intervening at the *Level of the Person.*

(Baruch-Feldman,2009)

Intervening at the Level of the Environment

Changing the physical or social environment to reduce problems

Changing the way cues are provided to prompt the child to perform tasks or behave in certain ways

Changing the nature of the task

(Baruch-Feldman,2009)

Intervening at the Level of the Person

The goal of this strategy is to change the student's capacity for using executive skills.

1. Teaching student ways to develop or fine tune executive skills that are needed.

2. Motivating student to use the executive skills that he/she has but is reluctant to employ.

(Baruch-Feldman,2009)

Teaching Thinking and Organizational Skills in Addition to Content Knowledge

1. Initially teachers become the frontal lobes for the child.

2. After having walked the child through the process many times the teacher can then begin to reduce the level of supervision and support.

3. The next step might be to begin to transfer the responsibility to the child by asking a more general question (e.g. "What do you need to do?")

4. The transfer is complete when the child reaches the point when he/she asks himself/herself "What do I need to do"? and either refers to the list independently without prompting from the parent or remembers the steps on the list and can perform the task without referring to the list itself.

(Baruch-Feldman,2009)

Hyperlexia

A precocious ability to read words far above what would be expected at a child's age

Child may appear gifted in some areas and extremely deficient in others
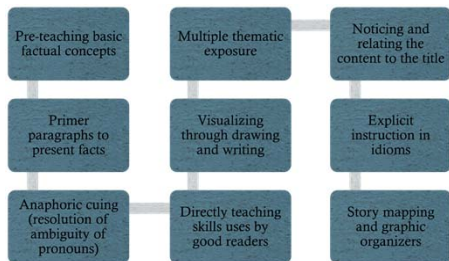
Symptoms of Hyperlexia

- Significant difficulty in understanding verbal language
- Difficulty in socializing and interacting appropriately with people
- Abnormal and awkward social skills
- Specific or unusual fears
- Fixation with letters or numbers
- Echolalia (Repetition or echoing of a word or phrase)
- Memorization of sentence structures without understanding
- Intense need to keep routines, difficulty with transitions, ritualistic behavior

Additional Symptoms

- Normal development until 18-24 months, then regression
- Listens selectively/appears to be deaf
- Strong auditory and visual memory
- Self-stimulatory behavior (hand flapping, rocking, jumping up and down
- Think in concrete and literal terms, difficulty with abstract concepts
- Auditory, olfactory and / or tactile sensitivity
- Difficulty answering "Wh–" questions, such as "what," "where," "who," and "why"

(AutismKey)

Evidence-Based Practices for Students with ASD and Hyperlexia

- Pre-teaching basic factual concepts
- Multiple thematic exposure
- Noticing and relating the content to the title
- Primer paragraphs to present facts
- Visualizing through drawing and writing
- Explicit instruction in idioms
- Anaphoric cuing (resolution of ambiguity of pronouns)
- Directly teaching skills uses by good readers
- Story mapping and graphic organizers

(Iland, 2011)

Anaphoric Cuing

- Difficulties in understanding pronouns
- Pronouns may not be correctly linked to referent
- Visual cuing assists in "making a match"

- See Handout *An Analysis of Problematic Cohesion*

Importance of Reading Strategies

Students should develop and become aware of their own thinking processes and habits to become more active and independent readers

More Evidence Based Reading Strategies

- Think-alouds
- Reciprocal questioning intervention
- Priming background knowledge
- Picture walks
- Visual maps
- Understanding narrative text
- Emotional thermometers
- Social stories

Developing Vocabulary

Experiencing real objects can help create a visual memory that can be drawn upon while reading to help with visualizing while reading.

Emily Iland

Shades of Meaning

Shades of Meaning is a phrase that is used to describe the small subtle differences meaning between similar words or phrases

Connotation is the attitudes and feeling associated with a word

Cold → Cool → Tepid → Warm → Hot

Try Your Skills

Put the works in order from weakest to strongest

1. Grumpy, cross, furious

2. Lump, particle, speck, chunk

3. Sip, swig, swallow, gulp

4. Wreck, destroy, damage

5. Shining, sparkling, glittering, dazzling

6. Pretend, fake, phoney

7. Boring, dull, tedious, uninteresting.

Teaching Word Elements: Prefixes, Suffixes and Root Meanings

- Explicit instruction and definition of roots and affixes provide concrete and predictable patterns
- Provide graphic or visual organizers to scaffold learning
- Teach strategy to analyze word identifying and removing segments to reveal root word.

Visual Tools

- Closed captions
- Film and visualization
- Reading scripts and plays
- Graphic organizers
- Text organization (features, structures, and previewing)

(Iland, 2011)

Power of Pictures

Summary

- Reading is a complex process that integrates many skills and abilities

- The core features of socialization, emotion, and communication differences in students with ASD many interfere with developing adequate comprehension

- All students can improve skills and expand their abilities to read and comprehend varying levels of text to become literate adults

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Reflections

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References- Videos

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- Professor Uta Frithhttp://www.youtube.com/watch?v=xsdrzVReyUw

- Weak Central coherence theory: http://www.youtube.com/watch?v=QXn2nIceM-EFrom

- Emotion to Comprehension with Stanley Greenspan and Lindamood-Bell Autism: http://www.youtube.com/watch?v=306hSpNltlc&list=PLEA7AE73B0278677F&index=1&feature=plpp_video