



CENTER FOR
DEVELOPMENT
& DISABILITY

IN SEARCH OF MEANING: AUTISM SPECTRUM DISORDER AND READING COMPREHENSION

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Special Thanks

Many thanks to Shari Robertson, Ph.D., CCC-SLP, for her inspiring talk, generous sharing and ongoing conversation...

“Reading Between the Lines: Hyperlexia and Reading Comprehension.”
Presented at the American Speech, Language and Hearing Association,
Los Angeles, November 2017.

<https://dynamic-resources.org/pages/free-resources>

Objectives

Participants will:

1. Identify the two core challenges in communication for students with ASD.
2. Describe two connections between social communication challenges and reading comprehension.
3. Describe two connections between restricted and repetitive behaviors and reading comprehension.
4. State at least two practical ideas for intervention.

Words matter...

“The phrase ‘words matter’ emphasizes the significant impact language has on individuals, relationships, and even societal structures.”

What is the meaning??

Core Challenges in Communication

Joint Attention: coordination of attention between people and objects

Symbol Use: learning conventional or shared meaning for symbols

National Research Council, 2001

Symbols and Meaning

What are some of the objects and symbols that your students enjoy?

What stands in the way of connecting these to function and meaning?

“...the brain develops as a network of interconnected pathways, and teaching babies these isolated facts, these separate chunks of disparate information, devoid of context, only creates little no-exit cul-de-sacs.” (Roots of Empathy, Gordon, 2009)

Social Communication

Challenges are identified in the following areas:

- Social-emotional reciprocity
- Nonverbal communication behaviors
- Developing, maintaining and understanding relationships

Restricted and Repetitive Behaviors

The presence of restricted, repetitive patterns of behavior, interests, or activities might include:

- Stereotyped or repetitive motor movements, use of objects, or speech
- Insistence on sameness, highly prefer certain routines or verbal or nonverbal patterns of behavior
- Unusual or intense interests
- Under or over reactivity to sensory input or unusual interest in sensory experiences

What is reading?

“Reading is a multifaceted process involving word recognition, comprehension, fluency, and **motivation**.”

readingrockets.org

Why do we read?

Communication

In order to achieve communication you have to have...

- 1. A sender**
- 2. A receiver**
- 3. A topic of joint focus**
- 4. A method of communication**

(Schweigert, 2016)

Reading as Communication

Who is the sender?

Who is the receiver?

What is the topic of joint focus?

What are the methods?

Another Social Skill??

Reading is a social interaction even when done independently!!

Successful Reading Comprehension: Two Broad Skills

Word Reading

The ability to accurately and automatically read words, either by sight or through decoding

Oral Language

The spoken form of language, including both speaking and listening – the foundation for reading and writing as it develops the skill needed for comprehension and communication

Duncan et al. (2021)

What is Hyperlexia?

- Decoding develops early and spontaneously
- Includes an intense interest in letters (and often numbers)
- Significant gaps between word-level decoding and comprehension
- Often associated with ASD (84% of children identified as hyperlexic are autistic)

Hyperlexia and ASD

- Reading might develop spontaneously and early with an intense focus on letters and decoding...
- As a solitary and not a social activity...
- **And sometimes without comprehension as a goal of the reader**

Our students might be considered star readers in the early years...

- But challenges with comprehension may begin to emerge in the later elementary school years.
- Students can read but might not gain information from text.
- Difficulties can be understood in the context of ASD, anticipated and addressed from the start.

Challenges may persist...

Beyond mapping symbols to meaning, some learners with ASD may have difficulty with:

- Verbal reasoning
- Making inferences
- Understanding humor, idioms, jokes, irony...

We must address the comprehension issue as soon as possible!

Limitations:

- Lack of specific research

- Limited research on comprehension that includes autistic participants

- Many studies use single word comprehension

- Limited understanding about how social communication and other characteristics of ASD impact learning

Shari Robertson, Ph.D., ASHA, 2017

McIntyre et al. (2017)

Reading Comprehension and ASD

EFFECTIVE READERS

Monitor their own comprehension

Read with a purpose

Infer what is not stated explicitly

Interpret information and link to their own knowledge and belief systems

Use author's organizational scheme or impose their own to increase understanding

SOME READERS WITH ASD

Do not self-monitor comprehension

Decode words – without looking for purpose

Understand single, literal word meanings

Might not read "between the lines"

Have background knowledge that might be narrow and restricted

Might not consider organizational structure

Shari Robertson, Ph.D., ASHA, 2017

Consider...

- Differences in social skills and experiences
- Restrictive and repetitive behaviors
- Knowledge base

“It’s not just about knowing the words – it’s about knowing what the author is trying to convey”

Shari Robertson, Ph.D., ASHA, 2017

Social Skills

Reading comprehension may be impacted by early social differences

- Limited/decreased quantity and quality of social conversation
- Limited social play
- Challenges understanding thoughts and feelings of others

Typical learners develop reading as a social experience

- Joint Attention
- Talking about words, pictures, experiences
- Adults modify text to promote comprehension

Some autistic learners develop reading spontaneously and without social connection

- Intense focus on letters and decoding
- Solitary and self-directed
- Comprehension may not be the goal of the reader

Restricted and Repetitive Interests and Behaviors

Might have a smaller range of interests

Specific interests might be very intense

Letters and words might be one of those interests!

➤ Inflexible thinking

➤ Literal interpretation

➤ Limited vocabulary outside of interest areas

➤ Lack of self-monitoring for comprehension

Knowledge Base

Shallow and wide base of information vs. narrow and deep

Advanced knowledge develops for some areas with very limited knowledge in others

- Limited practice conversing on a variety of topics
- Hard to connect reading to personal knowledge
- Resistance to some topics

Don't be thrown off the track!

- Early knowledge of letters and numbers
- Grade level or advanced decoding
- Strong spelling
- Good memory
- Resistance from others on the team

Remember!!!

It is wonderful for children to enjoy the patterns of letters and words, but important that we do not confuse decoding words with reading (with comprehension)!

For Early Learners

- Start matching symbols to meaning immediately
- Preschool and early elementary literacy should prioritize comprehension for learners with ASD

Don't miss a chance to match to meaning!

Match written words to objects and pictures

DOG =

Match action words to real actions

Jump

**Clap 2
times**

**Sharpen
your pencil**

**Find
something
blue**

Student dictates short picture description then reads their own sentence

Thomas cake!

Jack has a birthday!

Hiking.

She hikes in the Sandias.

Label Actions/Objects in Favorite Books

Small Group Language Lessons

1. Pick fun object (fun is in the eye of the beholder!)
2. Match to a picture
3. Name object
4. Describe (color, shape, size etc.)
5. Consider sounds and letters in the word
6. Dictate phrase/sentence about object
7. Read dictated phrase/sentence

Sequence Pictures

Add a blank card at the end to guess what is next

Try a blank card at the beginning to guess what was happening before

Pictures Walks

Focus on taking turns saying what you see

Keep it highly structured

Consider the picture without the words

FIRST:	THEN:
Picture	Words

As reading skills develop

Use **passage re-telling** to assess comprehension:

- Facts vs paraphrasing
- Random information vs narrative
- Main idea?
- Inclusion of unusual ideas?

Strategies that are evidence based for struggling learners who do not have ASD:

Some studies indicate that targeting cognitive approaches that have been found effective for students with other reading challenges can be effective for our learners

Strategies can be modified for students with ASD

(El Zien et al, 2014)

- **Questioning strategies**
- **Strategies for identifying main idea and summarizing**
- **Anaphoric cueing (direct teaching for comprehension when one word represents another)**

Make goals for purposeful reading explicit

Reading as a social interaction – even when reading independently

- Why is the reader reading the passage?
- Why is the author writing the passage?
- What is the author trying to convey?

Review skills for reading comprehension

- Read with a purpose
- Monitor comprehension
- Make inferences
- Interpret and link to personal knowledge and experience
- Develop an organizational structure

Visual Prompts for Question Words

What?

Who?

Where?

How?

Why?

Narrative Card Sort

Who?		Did What?	
Goldilocks	The bear family	Goldilocks	
	Found the bear house	Went for a walk	
Walked in the woods	Cooked breakfast	The bear family	

Narrative Card Sort

Who?	Did What?
Goldilocks	Walked in the woods
The bear family	Cooked breakfast
The bear family	Went for a walk
Goldilocks	Found the bear house

Use Color Coding (Anaphoric Cueing)



Once upon a time there was a boy called Jack. He lived with his mother. They were very poor. All they had was a cow. One morning, Jack's mother told Jack to take their cow to market and sell her. On the way, Jack met a man. He gave Jack some magic beans for the cow. Jack took the beans and went back home. When Jack's mother saw the beans she was very angry. She threw the beans out of the window. The next morning, Jack looked out of the window. There was a giant beanstalk. He went outside and started to climb the beanstalk.

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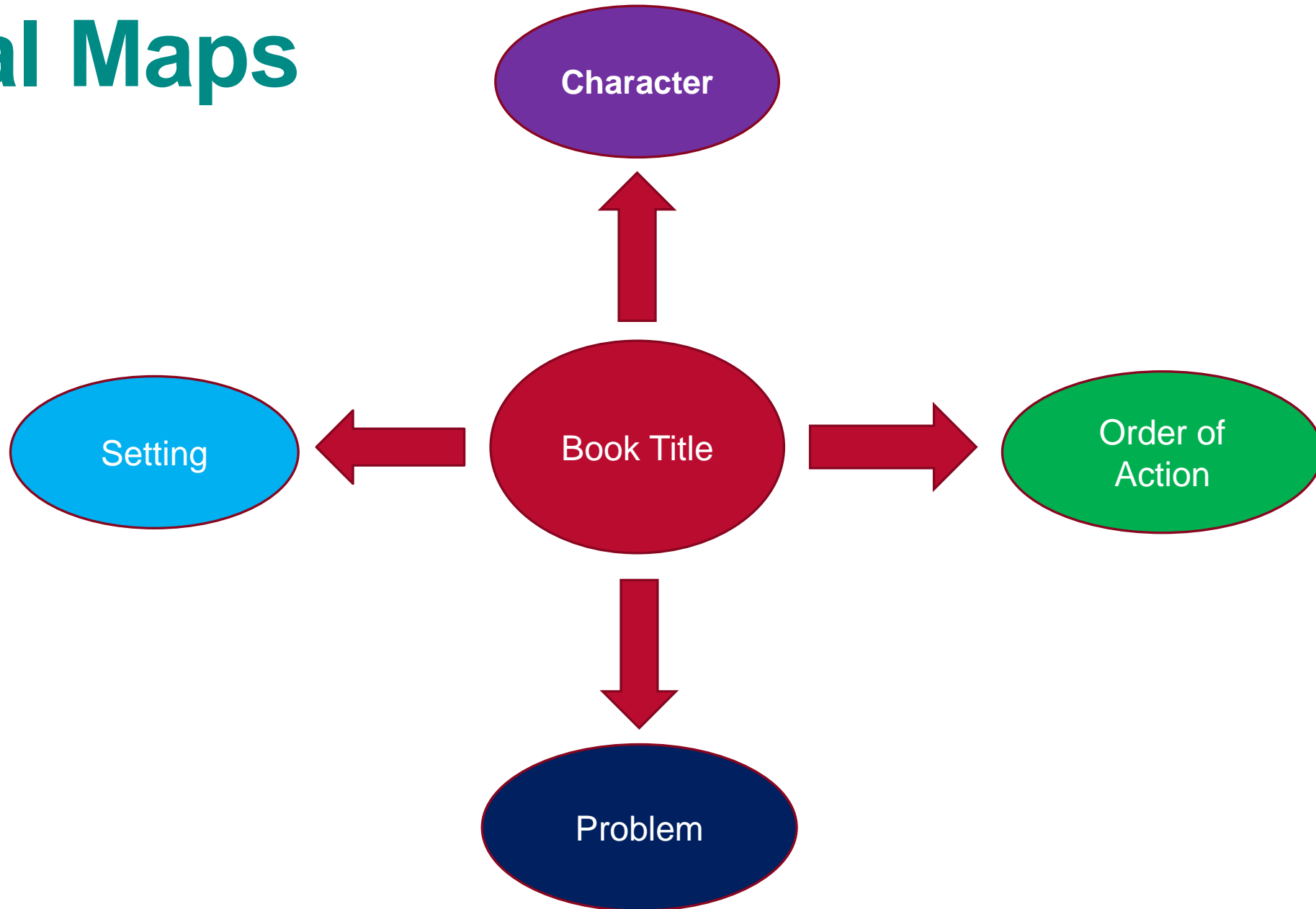
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Visual Maps



Think Aloud

“When I read the words _____, I thought about _____.”

“I’m confused about _____, let me see how I can figure it out.”

(keep simple and explicit!)

Emotional Thermometers

Thought Bubbles



In Summary

There's decoding...

The rest is COMMUNICATION!!

How do we make sure one is
connected with the other?!?!?

In Summary

- Understand core challenges of ASD.
- Put an **early** focus on reading **comprehension**.
- Connect symbols to meaning in everything.
- Support reading with comprehension as a social activity.

Thank you!

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