

Shari Robertson
Ph.D., CCC-SLP
S-C3-CL

SHAV, 2024

Waiting in Plain Sight

Reading Comprehension, Hyperlexia, and ASD

1

Who are we talking about today?

- Autistic persons who are readers (they can decode words)
- Specifically targeting those who learned to decode words with little or no instruction at an early age (hyperlexia)

2

NOTE

The assessment and intervention strategies provided in this seminar are those that are most appropriate for autistic readers with hyperlexia

HOWEVER, these strategies will facilitate better reading comprehension for ALL readers.

3

Learning Outcomes

Today we will:

- Compare and contrast: the development of reading for individuals who are typically developing and those who are ASD, in order to identify students on your caseload who may be at risk for reading/comprehension deficits.
- Conduct: assessment strategies to unmask reading comprehension deficits autistic students with hyperlexia
- Implement: evidence-supported strategies to facilitate reading comprehension for autistic students who are readers.

4

Jenny

"But, she learned to read all by herself when she was only three! I know Jenny has autism, but when she started Kindergarten her teachers said she was an advanced reader. Even though she sometimes struggled socially, schoolwork was always easy for her because she read so well."

5

Jenny

"Now, in fourth grade, she just can't seem to keep up. She gets discouraged and frustrated—and we do, too! We just don't know what happened."

Sound familiar?

6

WHAT'S GOING ON HERE?????

7

BUT....

There is really nothing "sudden" or "unexpected" about this downturn in academic achievement and the accompanying frustration.


8

The behaviors that predicted this outcome were identifiable from Jenny's first interactions with text.

9


In Fact...

Those behaviors deemed as positive and desirable in a student with high-functioning autism—early, spontaneous reading—can predict substantial challenges in reading comprehension.



10

Although this “comprehension crash” around 4th grade was predictable –




11

It is **NOT** inevitable



12

Simple View of Reading




Two components of reading

- 1) Decoding
- 2) Comprehension

13

Components of Reading

Decoding Comprehension




BOTH components necessary to be an effective reader

14

Which of these two skills is easier to identify (and teach)?


Decoding **POP QUIZ!!**

Comprehension



15

TEXT COMPREHENSION




The whole reason for reading!!

16

UNLESS YOU ARE A PERSON WITH HYPERLEXIA


DECODING



The whole reason for reading!!

17

Hyperlexia versus General Reading Comprehension Disorder




Learning Outcome 1
Compare and contrast the development of reading for individuals who are typically developing and those with ASD in order to identify students on your caseload who may be at risk for reading

18

General Reading Comprehension Disorder

- Poor decoding
- Poor reading comprehension
- Likely includes deficits in all skills identified by the National Reading Panel as critical to reading success (and subsequently requires intervention in several/all of these areas).

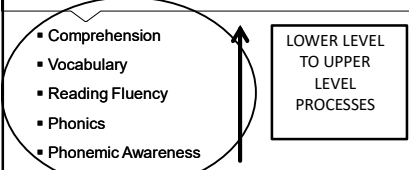


19

National Reading Panel

- Comprehension
- Vocabulary
- Reading Fluency
- Phonics
- Phonemic Awareness


LOWER LEVEL
TO UPPER
LEVEL
PROCESSES



20

Hyperlexia

- Decoding develops early and spontaneously
- Includes an intense interest in letters (and often numbers)
- Significant gap between word-level decoding and comprehension.
- Deficit is NOT related to lower level skills identified by the NRP (=phonemic awareness).
- Exclusive to ASD*

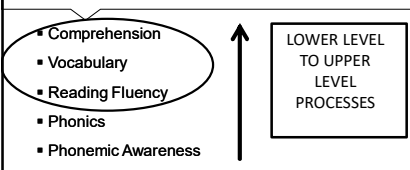


21

National Reading Panel

- Comprehension
- Vocabulary
- Reading Fluency
- Phonics
- Phonemic Awareness

LOWER LEVEL
TO UPPER
LEVEL
PROCESSES




22




"SWISS CHEESE READERS"

23



Because of their strong decoding skills, individuals with hyperlexia are typically regarded as "superstar readers" in the early years.

24

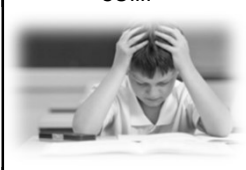


Because of their strong decoding skills, individuals with hyperlexia are typically regarded as "superstar readers" in the early years.

- But, the "holes" in their reading skills begin to affect comprehension around 4th grade when independent comprehension of material becomes critical to academic success
- These students can "read," but they don't gain information from the text because they only have the decoding piece of reading.

25


SO....



The reading shining stars seem to "suddenly" develop a reading disability.

26

Effects of Developmental Differences of Individuals with ASD on Later Reading Comprehension




27

Unique Profile of Learning

○ The unique profile of learning that is characteristic of ASD has an enormous influence on the development of both oral and written language.


1. Non-typical Socialization
2. Restricted and Repetitive Interests and Behaviors
3. Narrow/Deep General Knowledge Base



28

1. Socialization


- Limited/decreased quantity and quality of social conversations with adults (language is learned in the dyad)
- Lack of social play (where children learn to interact with others, learn new vocabulary, discover ideas, and learn about emotions of others)
- Difficulty forming cognitive schemas about beliefs or internal states (theory of mind)



29

2. Restricted and Repetitive Interests and Behaviors


- Tend to have a much smaller range of interests despite exposure to a variety of experiences.
- Results in a "poverty of experience" (as if they had never been exposed)
 - Limits general range of knowledge and the language and social relationships that go along with it
 - Affects play, leisure, and academic activities



30

Really Important Concept!

Reading as a Restricted/Repetitive Interest




31

For Typical Learners:

Learning to read is a social experience - as is learning to talk.


- ✓ Joint attention
- ✓ Discussion about vocabulary/pictures/experiences
- ✓ Adults scaffolds the text to promote comprehension



32




33



#Bite Cows.
#Hairy Cows.

34




#Friendly Cows.
#Scary Cows.

35


ASD/ Hyperlexia:

Reading develops spontaneously and early - no social connections

- ✓ Intense focus on letters and decoding
- ✓ Solitary, self-directed, isolating
- ✓ Comprehension is NOT the goal of the reader




36




When it's late and I
can't sleep.
I count cows
instead of sheep.

37



Brown Cows.
White Cows.

38



Heavy Cows.
Light Cows.


39

Effects on Comprehension

- Literal interpretations of text
- Limited/poor vocabulary (except around topics of interest)
 - Multiple meaning words
 - Figurative language
- Lack of comprehension/self-monitoring
- Inflexible thinking

40


3. General Knowledge Base Restrictions



- Most people have a shallow and wide base of information across a range of topics (that is, we know a little about a lot of things)
- Autistic individuals tend to have a narrow and deep base of information (know a lot about a few things).
- May have advanced, factual knowledge and vocabulary on a severely limited range of topics – but little or no knowledge about other topics.

41

- Limits topics on which they can converse (social/vocabulary) which limits social conversation/experiences.
- Cannot draw connections between what is read (or heard) and what they know.
- Avoids or resists topics outside of interest area.
- Comprehension of both oral and written language is compromised.



42



**NO
WONDER
THEY
STRUGGLE!**


43

Problem does NOT "suddenly develop"


- The reading problem has been there all along – hiding in plain sight.
- Recognizable from first interactions with text, but is typically ignored/ not recognized.
- The very characteristics that parents and teachers often identify as "advanced" signal that the student is at risk for poor reading comprehension.

44

- Taken together, these developmental characteristics can have a debilitating effect on both oral and written language comprehension of ASD readers.
- Assessment and intervention must be aimed at unmasking the problem and addressing the comprehension deficit as early as possible.



45



Factors that Mask Comprehension Difficulties/ Delay Intervention


46



"Blinded by Strengths"


47

- ✓ Early "reading superstar" status
- ✓ Good visual memory
- ✓ Superficial comprehension/ understanding of concrete facts – problems only become apparent as demands of reading increase
- ✓ Resistance from families or educators to investigate potential problems when the child appears to be/has a history of being so far ahead of his/her peers in reading.



48


Initiating appropriate assessment and intervention as soon as the nontypical behaviors in the social and behavioral aspects of learning to read are observed is an important first step toward minimizing reading comprehension deficits.



49

Assessment Considerations

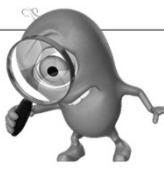
Hyperlexia itself should be considered a red flag for future comprehension difficulties.



Learning Outcome 2
Identify appropriate methods to identify potential comprehension deficits for ASD readers.

50

Standardized tests are NOT the answer




51

Why not standardized tests?

- Autistic individuals can achieve test scores within the average range by tapping into strengths that mask the underlying deficits. (e.g., tend to do well on isolated tasks)
- Formal/standardized tests are not particularly helpful in identifying appropriate intervention targets.


52

- Reading Prosody Check
- Contrastive Stress Questions
- Heteronym read-alouds
- Passage Retell
- Compare skills to state standards
- College placement testing



Suggestions for Assessment

53



Reading Fluency Check

54

Fluent Reading is NOT the same as Reading Automaticity

A Venn diagram with three overlapping circles labeled 'Accuracy', 'Prosody', and 'Speed'. An arrow points from the intersection of all three circles to the text 'Reading Fluency'.

55

Prosody is the KEY to Comprehension!

56

○Automaticity is mostly a reflection of a students' ability to decode words (lower level processes).

○Students who read aloud with appropriate Prosody demonstrate that they are actively engaged with the meaning of the text (comprehension).

57

○Fluent readers use appropriate prosody and stress high-meaning words more heavily than words that have less importance to the passage.

○This signals they have made the important shift from merely decoding words to comprehension of the content of the passage.

58

Reading Prosody Check

- Ask students to read (ALoud) passages of text at grade level.
- Performance related to automaticity (speed X accuracy) provides a rough estimate of decoding.
- Performance related to prosody, word stress, phrasing (reading fluency) provides information about comprehension.

59

NAEP Oral Reading Fluency Scale National Assessment of Educational Progress

	Score	Description of Oral Reading Fluency
MATURE	4	Reads primarily in large, meaningful phrase groups. Although some repetitions, repetitions, and deviations from the text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation. Reads at an appropriate rate.
	3	Reads primarily in three- and four-word phrase groups. Some smaller groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present. Reader attempts to read expressively and some of the story is read with expression. Generally reads at an appropriate rate.
NON-MATURE	2	Reads primarily in two-word phrase groups with some three- and four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to the larger context of the sentence or passage. A small portion of the text is read with expressive interpretation. Reads significant sections of the text excessively slow or fast.
	1	Reads primarily word-by-word. Occasional two-word or three-word phrases may occur - but these are infrequent and/or they do not preserve meaningful syntax. Little expressive interpretation. Reads text excessively slow. A score of 1 should also be given to a student who reads with excessive speed, ignoring punctuation and other phrase boundaries, and reads with little or no expression.

http://nces.ed.gov/nationsreportcard/studies/orf/naep_orf_scale.asp

60

Contrastive Stress

Can the student use sentence stress appropriately to convey meaning?

61

Grandpa is sleeping in the chair.

62

Grandpa is sleeping in the chair.


Child reads the sentence.

Then reads the sentence again in response to the following questions.

○Who is sleeping in the chair?
 ○Where is Grandpa sleeping?
 ○What is grandpa doing in the chair?

63



The dog is wearing a hat.



O Who is wearing a hat?
 O What is the dog wearing?
 O What is the dog doing with the hat?

64


For older students

O Consider using headlines from news sources.
 O Student reads back headline in response to questions.

65

Heteronym Read-Alouds



“PRESENT”

66

Heteronym read-alouds

O Helps identify if the reader is merely decoding (word calling) or can understand the deeper meaning of the text.
 O Readers who are unable to manage heteronyms (i.e., apply appropriate word stress) in context during read-alouds reveal underlying deficits in comprehension.

67

Can the student use appropriate syllable stress in context?

O Blood vessels **contract** when it's cold outside.
 O A good **sewer** must be able to make straight seams in a garment.
 O Get the **lead** out! We are late to the party.
 O I'm always excited to **read** a new story.

68


Find a comprehensive list of English heteronyms at:

www.english-for-students.com

(website listed in handouts)

69

Passage Retell



Can the student provide a coherent retell of a reading passage?

70

Passage Retelling

O Provides authentic, comprehensive snapshot of comprehension (Thome & Coggins, 2007)
 O Ideally, assess using several passages of different genres (Fictional, expository text, etc.)
 O Informal decisions made regarding the quality and characteristics of the retell.
 O These observations are used to make decisions about intervention targets

71

PASSAGE/STORY RETELL	
✓ Paraphrasing of facts or paraphrasing?	Available in handouts and online at www.dynamic-resources.org/free-resources
✓ Random bits of information or story grammar?	
✓ Consideration of the needs of the listener?	
✓ Use of appropriate pronouns/anaphoric referencing?	
✓ Middle of ideas or main idea?	
✓ Inclusion of bizarre/unrelated facts or references?	
✓ Able to answer clarifying questions?	

72

Assess Skills Related to Educational Standards

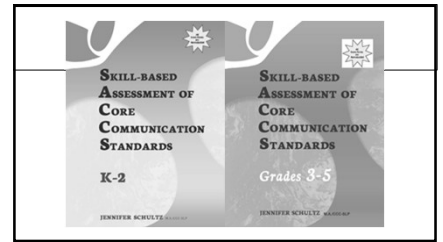
73

○ An efficient and systematic way to identify what to target (and where to start) is to compare current skills to state standards.

○ OCCSS for many states

○ Can use your state's standards as well.

74



75

College Placement Tests

OLDER STUDENTS

<https://accuplacer.collegeboard.org/>

76

- Free
- Used to determine level of skill in relation to what is expected at the college level – NOT ADMISSION test.
- Can be taken beginning in junior high.
- Use results to drive intervention – what does the individual need to improve to meet expectations of college?

<https://accuplacer.collegeboard.org>

77

Reading Comprehension Informal Assessment		Assessment Summary
Name		Use Results/Findings to Drive Intervention Goals Find in handouts
Age		
Current Location		
Reading Skills		
Reading Comprehension		
Oral Language		
Independent Reading		
Passage Title		
Author		
Assessment Strategy		

78

Intervention Toolbox to Improve Comprehension for Readers with ASD

Outcome 3
Implement evidence-supported strategies to facilitate comprehension for ASD readers

79

Lack of Specific Research

○ Paucity of research regarding comprehension that includes ASD participants

○ Chang (2007): 754 studies related to reading comprehension; 11 included at least one ASD participant

○ Most studied single word comprehension

80

Good Comprehenders

- Read with Purpose
- Monitor their own comprehension
- Infer what is not stated explicitly
- Interpret information and link to their own knowledge and beliefs systems
- Use author's organizational scheme or impose their own to increase understanding


81

Individuals with Hyperlexia

- Only decode words – do not look for purpose.
- Do not self-monitor comprehension
- Typically only understand single, literal word meanings. Cannot read between the lines.
- Background knowledge is narrow and restricted.
- Do not consider organizational structure

82

POTENTIAL INTERVENTION TARGETS



Based on what we know about those with hyperlexia and what we know about facilitating reading comprehension

83

- ✓ Build Intervention Around Books
- ✓ Social Aspects of Reading
- ✓ Vocabulary Development
- ✓ Purposeful Reading
- ✓ Morphology

84




Make it "Meta"

IMPORTANT FIRST STEP

85

- When a readers "teaches themselves to read" without adult interactions, they miss out on the conversations about words and meaning.
- Parents/caregivers actually model meta skills when reading with children.
- Think how that might look....

86



- "The hungry caterpillar is eating all kinds of food!" (categorization)
- I wonder what that means? (metacognition/comprehension)
- Look – there words all have the same.....

87


Build Intervention Activities Around Books



88

"START WITH A BOOK."


WE BOOKS



When a reader "teaches themselves to read" without adult interactions, they miss out on the conversations about words and meaning.

89

- Need to help readers with ASD form new relationships with books.
- To experience meaningful interactions with text on multiple levels – not just as pages to decode.




90

The Social Aspects of Reading

○ The key issue is to consider the pattern of development that is typical of autistic individuals.

- ✓ Poor social relationships
- ✓ Reading as a restrictive/repetitive behavior
- ✓ Comprehension is not end goal

91



So, our task is to fill in the missing pieces


92

Targeting Social Reading

○ Children who demonstrate hyperlexia mostly likely will need to learn how to read within the dyad.

○ Adult scaffolds the interaction to highlight the **meaning** of what is being read.

○ Help child link pictures to text, build schemata, broaden vocabulary, promote flexible thinking, demonstrate that comprehension is the goal of reading




93

See Handouts for more information on interactive reading

Therapy/ Interaction Reading


Interactive Reading provides opportunities for active participation in the reading process.

- Echo Reading
- Paired Reading
- Friendly Questions
- Predicting
- Wordless Books
- Reader's Theatre




Build New Relationships with Books

94



95

Hi there! My name is Bernice.



I am **ENORMOUSLY** hungry today.

Can you help me find something to eat?

96



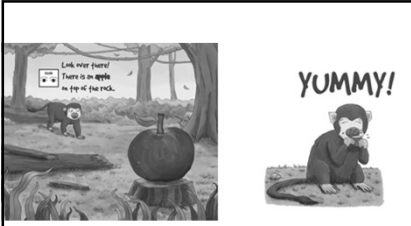
Let's link. Can you find?

Where, in, where is something that?

Where, in, where is something that?

Let's link. Where?

97

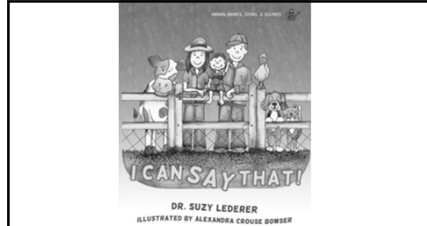


Link, what there?

There is an apple on top of the rock.

YUMMY!

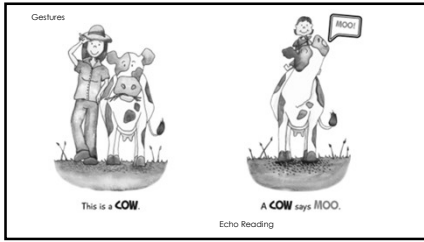
98



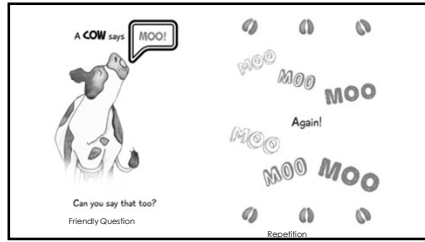
I CAN SAY THAT!

DR. SUZY LEDERER
ILLUSTRATED BY ALEXANDRA CROUSE BOWSER

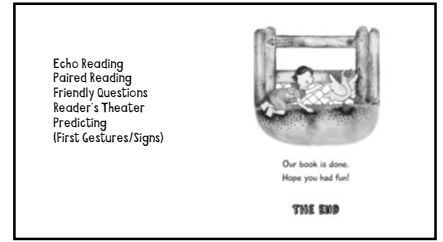
99



100



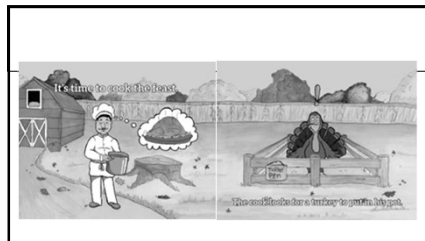
101



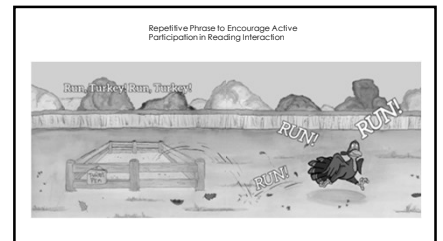
102



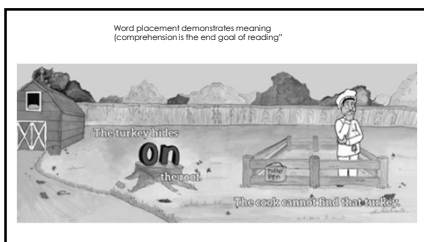
103



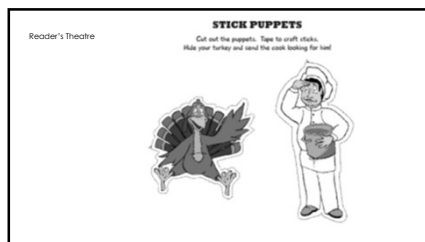
104



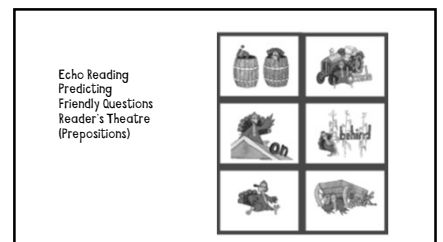
105



106



107



108

Case Study Application

109

Reading Comprehension Informal Assessment	
Name:	Celia
Age:	7
Current Class:	2nd
Reading Level:	Below grade level
Reading Fluency/Prosody:	Below grade level
Comprehension Skills:	Below grade level
Reading Habits/Attitude:	Below grade level
Teacher Notes:	
Other Comments:	

• Celia,
2nd grade

Form available in handouts

110

Celia

- Classic hyperlexia behaviors (early, spontaneous reading, advanced decoding skills, little or no reading in dyad)
- Extreme difficulty disassociating from letters
- Narrow and rigid vocabulary
- Reading prosody is poor
- Comprehension problem emerging
- TOM/Emotions issues?

111

Intervention Plan

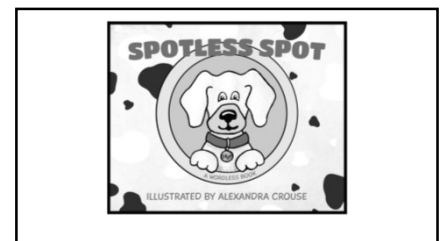
- ✓ Build activities around books
- ✓ Social/interactive reading experiences to model comprehension as end goal
- ✓ Reduce dependence on text/shift focus from letters only
- ✓ Encourage /model appropriate prosody
- ✓ Expand Vocabulary (Vocabulary of Emotions)
- ✓ Increase social/emotional awareness in self and others
- ✓ Transfer skills to real life

112

Wordless Books

- Removes the words altogether so the interaction focuses on the pictures and meaning of the story being conveyed.
- No letters means no independent "reading."
- Child must interact with **meaning** conveyed by pictures rather than merely decoding symbols.

113



114

This also targets...

Sequencing – which helps students better understand story grammar and facilitates comprehension

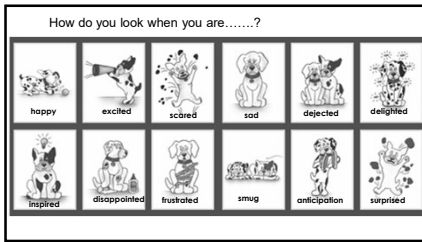
115

- Use the emotion word when telling story together
- Use friendly questions to encourage discussion about emotions throughout story

116

How do you think Spot (and/or his friend) feels?
How can you tell? Why might they feel like that?

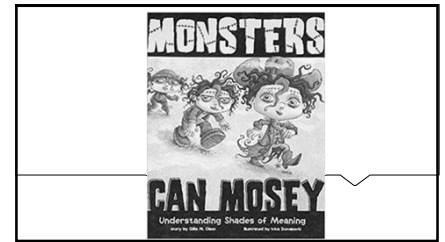
117



118

Find a list of wordless books for both younger and older students in the handouts for this seminar

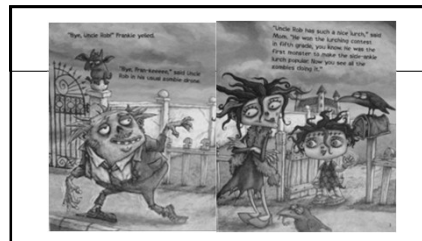
119



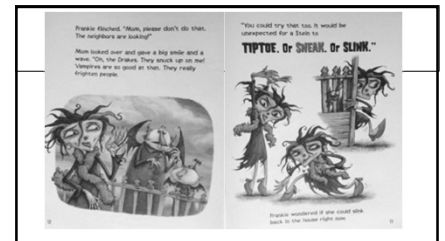
120



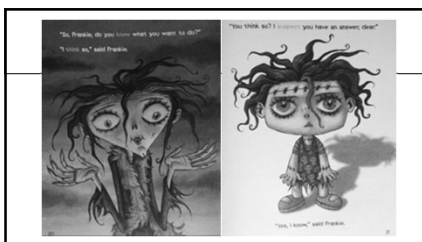
121



122



123



124

Movement	
Lurch	Slink
Walk	Glide
Stut	Float
Prance	Slither
March	Squirm
Trudge	Creep
Lumber	Prowl
Clomp	Slide
Stomp	Mosey
Tiptoe	Sneak

125

Extensions for Monsters Can Mosey

126

Act it Out

Obviously, you are going to have students act out all of the different ways a Monster can move!

O "Slink," lumber," and "march" your way across the room. Try the "side lurch" like Uncle Rob (the zombie).

O For multiple students, have them pick which form of movement they want to demonstrate or do a compare and contrast, such as "prowl" versus "prance."

127

Extend
(so many ways to do this: Here is one)

O Brainstorm others things that could move in the way described....And what could not!

Things that lumber:	Things that do NOT lumber:
Elephant	Snake
Rhinoceros	Butterfly
Gorilla	Eagle

Categorization, Critical Thinking

128



STICKY NOTE ALERT
One of my new favorites...

129

CREATE A NEW BOOK TITLE!

O Task: Create a title for another (hypothetical) book following the pattern of the title from *Monsters Can Mosey*.

O For younger students: Have students brainstorm other ways that "nouns" can "move." You write the title on a sticky note and they add it to the poster or word wall board.

O For older students: Students create and write titles themselves.

130

Monsters Can Mosey Also targets Phonemic Awareness

Giraffes Can Gyrate	Tigers Can Tiptoe	Ducklings Can Dawdle
Llamas Can Lollygag	Pandas Can Prance	Cats Can Cartwheel

131

Movement		Fear
Lurch	Slink	Scary
Walk	Glide	Unnerving
Stut	Float	Panic
Prance	Sither	Frighten
March	Squirm	Spooky
Trudge	Doze	Creepy
Lumber	Prowl	Horifying
Clomp	Slide	
Stamp	Mosey	
Tiptoe	Sneak	

132

Fear

O Fear is described in many ways throughout the book. What is something that is "creepy" versus "horifying?" "Unnerving" versus "spooky."

O Create a new word wall for "scary."
(Adjectives/shades of meaning)

133

YOUR TURN "Scary" Titles

_____ are Terrifying	_____ Are Scary	_____ are Spooky
_____ are Frightening	_____ Are Horrifying	_____ are Creepy

Also targets Phonemic Awareness

134

"Scary" Titles

Tigers are Terrifying	scarabs Are Scary	Spiders are Spooky
Frogs are Frightening	Hammerhead Sharks Are Horrifying	Crabs are Creepy

Also targets Phonemic Awareness

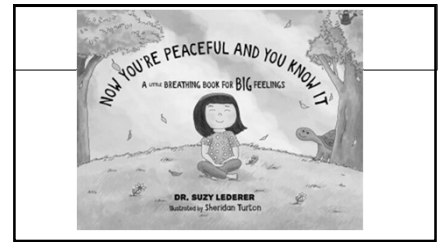
135

	Movement	Fear	Cognition	
	Lurch	Stink	Scary	Think
	Walk	Glide	Unnerving	Know
	Strut	Float	Panic	Suspect
	France	Sift	Frighten	Keep in mind
	March	Squirm	Spooky	Conclude
	Trudge	Ooze	Creepy	Suppose
	Lumber	Prowl	Humiliating	Imagine
	Clomp	Slide		
	Stomp	Mooey		
	Tip-toe	Sneak		

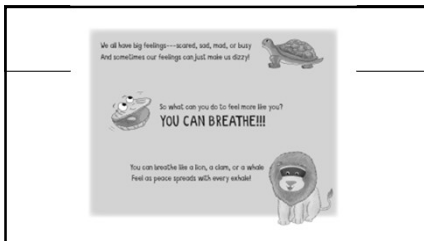
136

What might we do with cognition words?

137



138



139



140

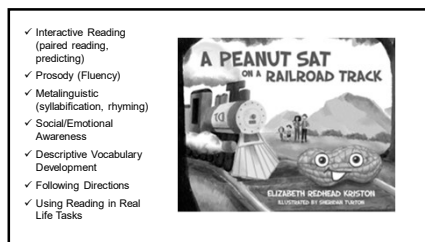


141

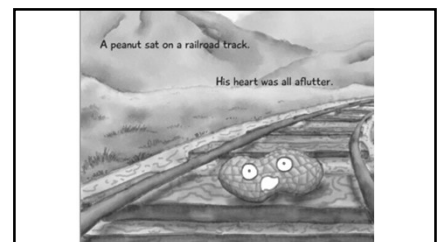
Intervention Targets Addressed

- ✓ Build activities around books
- ✓ Social/interactive reading experiences to model comprehension as and goal
- ✓ Reduce dependence on text/shift focus from letters only
- ✓ Expand Vocabulary
- ✓ Encourage /model appropriate prosody
- ✓ Increase social/emotional awareness in self and others
- ✓ Transfer skills to real life

142



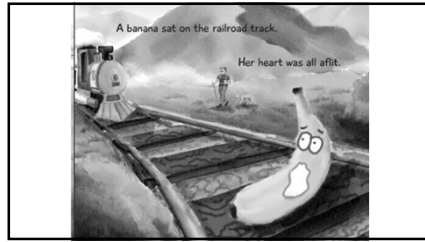
143



144



145



146



147



148

Act it Out

- Slice
- Mash/smush
- Peel
- Munch/Crunch
- Quake
- Bubble

149

Social/Emotional

150

What does worry look like?

Look at the foods sitting on the railroad tracks. Study their eyes and mouths. What clues do you see that tell you they are worried about the train?

151

- Eyebrows – raised
- Eyes – open wide, squeezed shut tightly, tears
- Mouth – open wide, clenched shut, teeth showing
- Body – shaking
- Other – sweating

152

What do you look like when you are worried?

Make your "worried" face and take a picture.

153

PEANUT BUTTER

Ingredients:

- 2 C unsalted peanuts (can be roasted for richer flavor)
- Optional: honey/sugar kosher salt, peanut oil, chopped peanuts

To Prepare:

CRUNCH the peanuts in a food processor by running it for 4-5 minutes or until a creamy consistency is achieved.

- You may need to add small amounts of oil if nuts are too dry.
- Mix in honey/sugar and a bit of salt if you desire.
- Chopped nuts can be stirred in for crunchy peanut butter.
- Refrigerate. (Unless you eat it all right away!)

154

BANANA SPLIT

Ingredients:

- 1 ripe banana
- 1 scoop each of vanilla, strawberry and chocolate ice cream (may be replaced with 3 scoops Neapolitan ice cream)
- Fruit: your choice of strawberries, crushed pineapple, blackberries, raspberries, blueberries, and/or mandarin oranges
- Chocolate sauce, butterscotch sauce (your choice)
- Chopped almonds
- Whipped cream and cherries

To Prepare:

SLICE banana lengthwise.

- Place one half on each side of an oblong bowl.
- Add the three scoops of ice cream in between the sliced bananas.
- Top each scoop with the toppings any way you would like.
- Add chopped cream and a cherry on top.

155

Intervention Targets Addressed

- ✓ Build activities around books
- ✓ Social/interactive reading experiences to model comprehension as end goal
- ✓ Reduce dependence on text/shift focus from letters only
- ✓ Expand Vocabulary
- ✓ Encourage /model appropriate prosody
- ✓ Increase social/emotional awareness in self and others
- ✓ Transfer skills to real life

156

Jason

Grade 5

157

Reading Comprehension Informal Assessment

Name: Jason

Age: 10 Grade: 5

Current Concerns: Currently experience extreme frustration. Acting out. Cannot apply information from reading to classroom or discussions. Relies reading on anything but preferred topics.

Reading History: Classic hyperlexia profile. Early spontaneous reading - self taught. Considered a high-level reader in K-1. Preferred books on specific topics (trains, dinosaurs, vehicles, ships).

Reading Fluency/Prosody: Some intonation present. Some odd phrasing and stress.

158

Contrastive Stress	Required a good deal of support/modeling to complete task. Unable to use appropriate stress independently.
Heteronym Read-Aloud	5/10 sentences read with incorrect stress.
Passage Retell	Parrots facts/no story grammar models of ideas cannot answer clarifying questions
CBSS Summary (Weaknesses/Strengths)	Summarize information from text coded as clue to meaning. Figurative language very poor cannot identify non-literal shades of meaning, synonyms, antonyms

S. Robertson, 2020

159

Jason Summary

- Hyperlexia profile (reading = repetitive restrictive interest. High decoding, low comprehension)
- Poor Prosody
- Does not understand non-literal/ Figurative Language
- Does not use context for to identify meaning
- Rigid vocabulary

160

Jason Intervention Plan

- ✓ Purposeful Reading
- ✓ Building Flexible and Diverse Vocabulary
- ✓ Contrastive Stress practice
- ✓ Echo reading with grade level materials
- ✓ Morphological Awareness
- ✓ Figurative Language

161


Jason Intervention Plan

- ✓ Purposeful Reading
- Building Flexible and Diverse Vocabulary
- Contrastive Stress practice
- Echo reading with grade level materials
- Morphological Awareness
- Figurative Language

162

READING WITH PURPOSE

Students must be purposeful and active in order to achieve comprehension of text.



163

Purposeful Reading

- Reading is a social interaction – even when reading independently.
- Effective reading comprehension requires an understanding of reading motives:
 1. Why the reader is reading the passage
 2. Why the author is writing the passage
- It's not just about knowing the words – it's about knowing what the author is trying to convey

164

Ask Yourself....

WHAT'S MY PURPOSE?

Text Selection: _____ (insert page title of book, chapter, article, page range, etc.)

- Read for pleasure
- Read to learn new vocabulary
- Read to be able to discuss with others
- Read to learn a procedure
- Read to find answers
- Read for specific information
- Read to compare and contrast
- Read and reflect
- Read and summarize
- Other _____

NOTES _____

Why I am reading this text?

Metacognitive Skill

165

Next Step

Why did the author write this text?

Text

The Purpose for Reading This Selection

- Read for pleasure
- Read to learn new vocabulary
- Read to be able to discuss with others
- Read to learn a procedure
- Read to find answers
- Read for specific information
- Read to compare and contrast
- Read and reflect
- Read and summarize
- Other _____

The Author's Purpose for Writing This Selection

- Tell a story
- Compare and contrast
- Convince an audience
- Convey information
- Entertain
- Report and inform
- Share an experience
- Other _____

166

Next Step

Why did the author write this text?


- Read and reflect
- Read and summarize
- Other _____

The Author's Purpose for Writing This Selection

- Tell a story
- Compare and Contrast
- Convince an audience
- Convey information
- Entertain
- Report and inform
- Share an experience
- Other _____

167

**STORY GRAMMAR/
PURPOSEFUL READING**



Activate cognitive system: Plan/Do/Review

168

Story Grammar

- ASD readers may not understand that stories have grammar (meta skill)
- Can be explicitly taught
- Meta skill

169

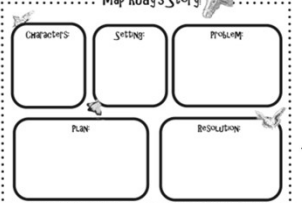
Start by teaching parts of a story

BASIC STORY GRAMMAR

- The Setting (where does the story take place)
- The Characters (Who is in the story)
- The Problem (What to get the story started)
- The Action (What actions occur in response to the problem?)
- The Resolution (How is the problem solved?)

170

Map Rudy's Story



171

Teacher/SLP creates a list of vocabulary word for a specific story/ book.

boa, butler, croquet, mallet, cure, disappear, elegant, gazebo, relief, chocked, shriveled, snickering, wizard

172

Story Grammar
Predict-O-Gram

Students then PREDICT in what part of the story the author will use the selected words.

The setting	The characters	The problem	The action	The resolution
<i>elegant</i>	<i>butler</i>	<i>croquet</i>	<i>snickering</i>	<i>cure</i>
<i>gazebo</i>	<i>wizard</i>	<i>mallet</i>	<i>shocked</i>	<i>relief</i>
		<i>boa</i>	<i>shriveled</i>	<i>disappear</i>

Predict - Do -Review activates cognitive system and gives students a PURPOSE for reading (a necessary part of comprehension)

173

YOUR TURN!

Rudy	Fall	Farm	North Carolina
Villain	Compete	Angry	Hurt
Dastardly Dan	Run	Safe	Trophy
Jump	Hurt	Craig	Mad

The setting	The characters	The problem	The action	The resolution

174



175

How did you do?

The setting	The characters	The problem	The action	The resolution
Farm	Rudy	Run	Plan	Safe
NC	Butterflies	Hurt	Jump	Trophy
	Villain	Fall		Proud
	Craig	Angry		

Bonus: Activity can be done as whole class, small group, individual, etc.

176

Can Use other Story Grammars structures, Icons, manipulatives, etc.

Story Grammar Markers

177

Figurative Language

OMad as a hornet
ORan like the wind
OLike the shifting colors of a kaleidoscope
OLike a spoiled brat
OLike he had wings on his feet

178

Jason Intervention Targets Addressed

- ✓ **Figurative Language**
- ✓ **Purposeful Reading**
- ✓ **Building Flexible and Diverse Vocabulary**
- Contrastive Stress practice
- Echo reading with grade level materials
- MORPHOLOGY to link words to meaning

179

Jason Intervention Targets

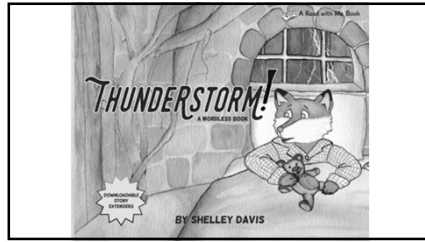
- MORPHOLOGY to link words to meaning
- Figurative Language
- Purposeful Reading
- ✓ **Building Flexible and Diverse Vocabulary**
- Contrastive Stress practice
- Echo reading with grade level materials

180

Summary of Research
Teaching Vocabulary

- Reading about/incorporating books into therapy is an effective and efficient way to build vocabulary.
- Active engagement improves learning.
- Effective direct vocabulary instruction does not rely on definitions.
- Teaching word parts enhances learning.
- Students must represent their knowledge of words in both linguistic and non-linguistic ways.
- Playing with words and gamification are effective ways to help students become more word conscious.
- Repeated exposure is essential.

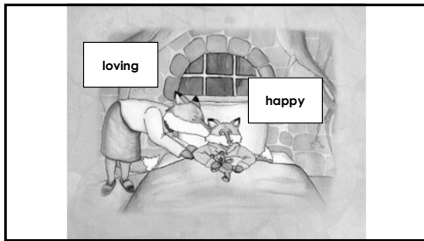
181



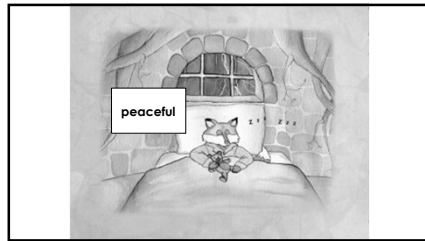
182

miserable	relieved	sad	frightened
lonely	surprised	curious	imaginative
peaceful	excited	unaware	sleepy
happy	angry	energetic	scared

183



184



185

- Reading about/incorporating books into therapy is an effective and efficient way to build vocabulary.
- Active engagement improves learning.
- Effective direct vocabulary instruction does not rely on definitions.
- Teaching word parts enhances learning.
- Students must represent their knowledge of words in both linguistic and non-linguistic ways.
- Playing with words and gamification are effective ways to help students become more word conscious.
- Repeated exposure is essential.

186

unpredictable
/ənˈprɛdɪkəbəl/

187

unpredictable

188

unpredictable

189

unpredictable


190

unpredictable
Opposite Before Say Capable of

191

Sub-lexical Vocabulary Instruction

Study of the internal structure of words is an important key to vocabulary development and comprehension for autistic individuals



Morphemes are the meaning structures of words!


192

Morphological Instruction

○ Roots and affixes are clear, concrete, and predictable.
 ○ Adding and subtracting word parts has mathematical overlays – often an area of strength for individuals with hyperlexia.

193


Find the Roots! (Harry Potter)



○ Enchantment
 ○ Magical
 ○ Wizardry
 ○ Invisibility
 ○ Illuminator
 ○ Seeker
 ○ Golden

194

Find the Roots! (Harry Potter)



○ Enchantment
 ○ Magical
 ○ Wizardry
 ○ Invisibility
 ○ Illuminator
 ○ Seeker
 ○ Golden


195

Roots and Branches

○ Create flashcards (index cards) that include a variety of base words and multiple affixes.
 ○ Learners make as many multi-syllabic words as they can from these "roots and branches."
 ○ This activity can be modified to work with individuals, small groups, large groups, or learning teams.

196

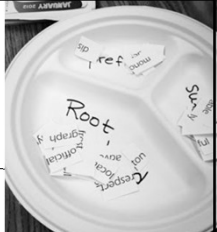
Roots and Branches



dis-	enchant	-ly
un-	happy	-ful
re-	spect	-less
	defense	-ing
	play	-ful
		-ment

197

So much more realistic...



198



199

Roots and Branches

PREFIX(es)	ROOT/BASE	SUFFIX(es)
WORD MEANING (write or draw)		

passion	power
spoke	courage
afraid	
gut	
source	

200



showing concern for others	the ability to find clever ways to overcome problems
showing courage, determination, and spirit	
willing to state your honest opinions	
willing to take risks and try new things	
feeling no fear	

201

PREFIX(es)	ROOT/BASE	SUFFIX(es)
con-	passion	
WORD MEANING		
showing concern for others		

202

SEEP

STEM (word part: prefix, root, suffix)	EXAMPLES	EXPLANATIONS	PICTURE
MAL-	Draco Malfoy Malpractice Malevolent Malodorous Malificent (Sleeping Beauty)	SOMETHING BAD or EVIL	 

203

Making It Plain Sight

LET'S SUM THINGS UP

204


The unique developmental history of individuals with ASD contributes substantially to the eventual problems they have with comprehension.

TRUE

205

Swiss Cheese Readers


Typically, 4th grade is when the reading disability becomes apparent as the individual moves from reading 'superstar' to struggling reader due to comprehension demands.



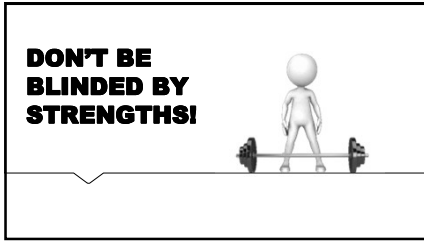
206

Hiding in Plain Sight!

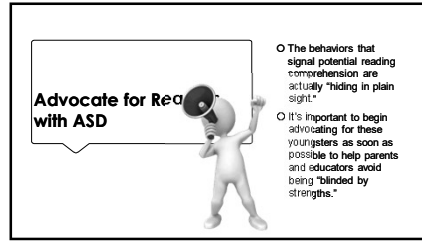
The behaviors that signal a high probability of reading comprehension deficits are observable from the child's earliest interactions with text.



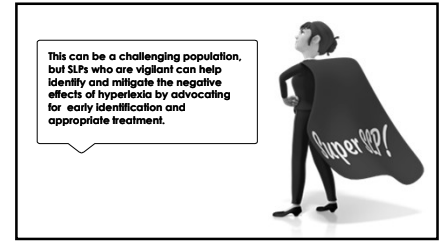
207



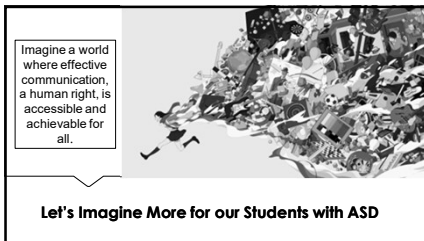
208



209



210



211



212

NAEP Oral Reading Fluency Scale

Score	Criteria
4	Reads primarily in larger, meaningful phrase groups. Although some regressions, repetitions, and deviations from the text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation. Reads at an appropriate rate.
3	Reads primarily in three- and four-word phrase groups. Some smaller groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present. Reader attempts to read expressively and some of the story is read with expression. Generally reads at an appropriate rate.
2	Reads primarily in two-word phrase groups with some three- and four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to the larger context of the sentence or passage. A small portion of the text is read with expressive interpretation. Reads significant sections of the text excessively slow or fast.
1	Reads primarily word-by-word. Occasional two-word or three-word phrases may occur - but these are infrequent and/or they do not preserve meaningful syntax. Lacks expressive interpretation. Reads text excessively slow. A score of "1" should also be given to a student who reads with excessive speed, ignoring punctuation and other phrase boundaries, and reads with little or no expression.

SOURCE: US Department of Education, Institute of Educational Sciences, National Center for Educational Statistics, National Assessment of Educational Progress (NAEP), 2002 Oral Reading Study. Accessible at: nces.ed.gov/nationsreportcard/studies/ors/scale.asp

PASSAGE/STORY RETELL

✓ Parroting of facts or paraphrasing?

✓ Random bits of information or story grammar?

✓ Consideration of the needs of the listener?

✓ Use of appropriate pronouns/anaphoric referencing?

✓ Muddle of ideas or main idea?

✓ Inclusion of bizarre/unrelated facts or references?

✓ Able to answer clarifying questions?

Name	
Age	Grade
Current Concerns	
Reading History	
Reading Fluency/ Prosody	
Contrastive Stress	
Heteronym Read- Alouds	
Passage Retell	
Summary of CCSS Skills	

All
Score Forms
are
Reproducible!

**SKILL-BASED
ASSESSMENT OF
CORE
COMMUNICATION
STANDARDS**

K-2

JENNIFER SCHULTZ M.A./CCC-SLP

Reading Comprehension Informal Assessment

Name		CELIA	
Age		7	Grade
			2
Current Concerns	Beginning to show signs of frustration with comprehension tasks. Does not identify emotions of self and others		
Reading History	Early spontaneous decoding identified around age 3.5. Parents report very little reading together (social reading interactions)		
Reading Fluency/Prosody	Speed and accuracy above grade level. Prosody mainly absent. Stress/Intonation when used is mostly inappropriate resulting in odd sounding oral reading. (Echo Reading) (Contrastive Stress)		
Contrastive Stress	Unable to complete this task. (Add to intervention plan)		
Heteronym Read-Aloud	Unable to complete task		
Passage Retell	Unable to complete task (Sequencing) (Wordless Books) (Story grammar)		
CSSS Summary (Weaknesses/Strengths)	Phonemic awareness skills okay. Unable to segment syllables. Unable to categorize. Struggles with rhyming. Multiple Meaning Words - difficult.. No apparent concept of synonyms/shades of meaning. Unable to identify word roots/affixes.		

EXTENSION ACTIVITIES FOR A PEANUT SAT ON A RAILROAD TRACK



<p style="text-align: center;">Syllable Segmentor (Phonological Awareness)</p>	<p>Identify the number of syllables in the foods in the story :</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">peas</td> <td style="width: 50%;">apples</td> </tr> <tr> <td>avocado</td> <td>bananas</td> </tr> <tr> <td>strawberries</td> <td>potatoes</td> </tr> <tr> <td>chocolate milk</td> <td>peanut</td> </tr> </table> <p>Other words for segmenting syllables:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">railroad</td> <td style="width: 50%;">guacamole</td> </tr> <tr> <td>track</td> <td>jug</td> </tr> <tr> <td>number</td> <td>soup</td> </tr> <tr> <td>louder</td> <td>yummy</td> </tr> <tr> <td>apple sauce</td> <td>burp</td> </tr> </table>	peas	apples	avocado	bananas	strawberries	potatoes	chocolate milk	peanut	railroad	guacamole	track	jug	number	soup	louder	yummy	apple sauce	burp
peas	apples																		
avocado	bananas																		
strawberries	potatoes																		
chocolate milk	peanut																		
railroad	guacamole																		
track	jug																		
number	soup																		
louder	yummy																		
apple sauce	burp																		
<p style="text-align: center;">Rhyme Time (Phonological Awareness)</p>	<p>Listen to the story. When the reader pauses, tell them two rhyming words you heard on that page.</p> <p>(Answers: aflutter/peanut butter aflit/(banana) split louder/chowder toss/sauce roly-poly/guacamole bam/jam loop/soup treat(s)/eat</p>																		
<p style="text-align: center;">Sound Segmenter (Phonemic Awareness)</p>	<p>Use various strategies to identify the sounds in each action word:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">slice</td> <td style="width: 50%;">whizz</td> </tr> <tr> <td>mash</td> <td>smuch</td> </tr> <tr> <td>peel</td> <td>bubble</td> </tr> <tr> <td>munch</td> <td>burp</td> </tr> </table> <p>(HINT: We love using paint strips (horizontally). Touch or move a token into a color variant on the strip for each sound)</p>	slice	whizz	mash	smuch	peel	bubble	munch	burp										
slice	whizz																		
mash	smuch																		
peel	bubble																		
munch	burp																		

<p style="text-align: center;">Categorization</p>	<p>Use the graphic organizer to talk about food in the book:</p> <p>What does it look like? How does it taste or smell? What does it sound like? How does it feel? Where do you find or keep it? How is it make or what can you make with it? When do we eat? What group does it go in?</p>								
	<p>Think of your favorite foods.</p> <p>Take turns descibing it using the graphic organizer. Can you communiation partner guess the food?</p>								
<p style="text-align: center;">Same/Different</p>	<p>Pick two foods from the book:</p> <p>How are they the same? How are they different?</p>								
<p style="text-align: center;">Act it out</p>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">slice</td> <td style="width: 50%;">whizz</td> </tr> <tr> <td>mash</td> <td>smuch</td> </tr> <tr> <td>peel</td> <td>bubble</td> </tr> <tr> <td>munch</td> <td>burp</td> </tr> </table>	slice	whizz	mash	smuch	peel	bubble	munch	burp
slice	whizz								
mash	smuch								
peel	bubble								
munch	burp								
<p style="text-align: center;">Social/Emotional Connections (TOM)</p>	<p>What does worry look like? Look at the foods sitting on the railroad tracks. Study their eyes and mouths. What clues do you see that tell you they are worried about the train?</p> <p>eyebrows - raised eyes - wide open, sqeezed shut, tears mouth - open wide, clenched shut, teeth body - shaking other - sweating</p> <p>Make your worried face and take a picture. What do you look like where you are worried?</p>								

Reading Comprehension Informal Assessment

Name		Jason	
Age		10	Grade
			5
Current Concerns	Currently, experience extreme frustration. Acting out. Cannot apply information from reading to classwork or discussions. Resists reading on anything but preferred topics.		
Reading History	Classic hyperlexia profile. Early spontaneous reading - self taught. Considered a high-level reader in K-1. Preferred books on specific topics (trains, dinosaurs, vehicles, ships)		
Reading Fluency/Prosody	Some intonation present. Some odd phrasing and stress.		
Contrastive Stress	Required a good deal of support/modeling to complete task. Unable to use appropriate stress independently.		
Heteronym Read-Aloud	8/10 sentences read with incorrect stress.		
Passage Retell	Parrots facts/No story grammar muddle of ideas cannot answer clarifying questions		
CCSS Summary (Weaknesses/Strengths)	<ul style="list-style-type: none"> -summarize information from text -context as clue to meaning -figurative language very poor -cannot identify roots/affixes -shades of meaning, synonyms, antonyms 		

SEEP

STEM	EXAMPLE	EXPLANATION	PICTURE

Common Greek Roots

Greek Root	Definition	Example
anthropo	man; human; humanity	anthropologist, philanthropy
auto	self	autobiography, automobile
bio	life	biology, biography
chron	time	chronological, chronic
dyna	power	dynamic, dynamite
dys	bad; hard; unlucky	dysfunctional, dyslexic
gram	thing written	epigram, telegram
graph	writing	graphic, phonograph
hetero	different	heteronym, heterogeneous
homo	same	homonym, homogenous
hydr	water	hydration, dehydrate
hyper	over; above; beyond	hyperactive, hyperbole
hypo	below; beneath	hypothermia, hypothetical
logy	study of	biology, psychology
meter/metr	measure	thermometer, perimeter
micro	small	microbe, microscope
mis/miso	hate	misanthrope, misogyny
mono	one	monologue, monotonous
morph	form; shape	morphology, morphing
nym	name	antonym, synonym
phil	love	philanthropist, philosophy
phobia	fear	claustrophobia, phobic
photo/phos	light	photograph, phosphorous
pseudo	false	pseudonym, pseudoscience
psycho	soul; spirit	psychology, psychic
scope	viewing instrument	microscope, telescope
techno	art; science; skill	technique, technological
tele	far off	television, telephone
therm	heat	thermal, thermometer

Common Latin Roots

Latin Root	Definition	Example
ambi	both	ambiguous, ambidextrous
aqua	water	aquarium, aquamarine
aud	to hear	audience, audition
bene	good	benefactor, benevolent
cent	one hundred	century, percent
circum	around	circumference, circumstance
contra/counter	against	contradict, encounter
dict	to say	dictation, dictator
duc/duct	to lead	conduct, induce
fac	to do; to make	factory, manufacture
form	shape	conform, reform
fort	strength	fortitude, fortress
fract	break	fracture, fraction
ject	throw	projection, rejection
jud	judge	judicial, prejudice
mal	bad	malevolent, malefactor
mater	mother	maternal, maternity
mit	to send	transmit, admit
mort	death	mortal, mortician
multi	many	multimedia, multiple
pater	father	paternal, paternity
port	to carry	portable, transportation
rupt	to break	bankrupt, disruption
scrib/script	to write	inscription, prescribe
sect/sec	to cut	bisect, section
sent	to feel; to send	consent, resent
spect	to look	inspection, spectator
struct	to build	destruction, restructure
vid/vis	to see	televise, video
voc	voice; to call	vocalize, advocate

BOOKS LISTS AND RESOURCES

BOOKS USED IN TODAY'S PRESENTATION	
Capering Cows, Shivering Sheep	Shari Robertson
Spotless Spot, Firefly Fox	Alexandra Crouse
I Can Say That!	Suzy Lederer
A Peanut Sat on a Railroad Track	Elizabeth Redhead Kriston
Monsters Can Mosey	Gilla Olson
Move!	Steve Jenkins and Robin Page
ADDITIONAL WORDLESS BOOKS (Younger Students)	
Thunderstorm	Shelley Davis
Changes, Changes	Pat Hutchins
Good Dog, Carl	Alexandra Day
Good Night, Gorilla	Peggy Rathman
Beaver is Lost	Elisha Cooper
Truck	Donald Crews
Flashlight	Lizi Boyd
Inside Outside	Lizi Boyd
Museum Trip	Barbara Lehman
The Lion and the Mouse	Jerry Pinkney
WORDLESS BOOKS FOR OLDER KIDS	
Unspoken: A Story from the Underground Railroad	Henry Cole
Sector Seven, Flotsam, Tuesday	David Weisner
Journey, Return, Quest	Aaron Becker
Fossil	Bill Thompson
Noah's Ark	Peter Spier
Chalk	Bill Thompson
Lights Out	Arthur Geisert
RESOURCES USED IN PRESENTATION	
Skills-Based Assessment of Core Communication Standards: K-2	Jennifer Schultz
Skills-Based Assessment of Core Communication Standards: 3-5	Jennifer Schultz
Very Vivid Vocabulary	Monica Gustafson
Read with Me! (Interactive Reading)	Shari Robertson
WEBSITE RESOURCES	
www.dynamic-resources.net	Resources for Interactive Reading, Books used in today's presentation
www.english-for-students.com	List of English heteronyms
https://accuplacer.collegeboard.org/	College Placement testing
http://nces.ed.gov/nationsreportcard/studies/ors/scale.asp	NAEP Oral Reading Fluency Scale
https://www.ereadingworksheets.com/free-reading-worksheets/authors-purpose-worksheets/	What's my purpose worksheets

SELECTED REFERENCES/FURTHER READING

Robertson, S. (2019). Hiding in Plain Sight: Text Comprehension, Hyperlexia, and Adolescents with Autism Spectrum Disorders. *Perspectives of the ASHA Special Interest Groups* • Vol. 4 • 438–446 • June 2019

Grigorenko, E. L., Klin, A., & Volkmar, F. (2003). Annotation:Hyperlexia: Disability or superability? *The Journal of Child Psychology and Psychiatry*, 44, 1079–1091.

Iland, E. (2011). *Drawing a blank: Improving comprehension for readers on the autism spectrum*. Shawnee Mission, KS: AAPC Publishing.

Newman, T.M., Macomber, D., Naples, A. J., Babitz, T., Volkmar, F., & Gringorenko, E. (2007). Hyperlexia in children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 37(4), 760–774.

Ostrolenk, A., Forgeot d’Arc, B., Jelenic, P., Samson, F., & Mottron, L. (2017). Hyperlexia: Systematic review, neurocognitive modelling, and outcome. *Neuroscience & Biobehavioral Reviews*, 79, 134–149.

Sparks, R. L. (1995). Phonemic awareness in hyperlexic children. *Reading and Writing*, 7, 217–235.

Wolter, J. A., & Gibson, F. E. (2015). Morphological awareness assessment and intervention to improve language and literacy. *Seminars in Speech and Language*, 36, 31–41.