

# **CHILDREN WITH ASD MAKING CONNECTIONS: READING AND MEANING IT NO MATTER WHAT THE GENRE**

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# Agenda for the Presentation

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- Identify conversation intervention strategies
- Differences in reading comprehension abilities between typically developing children and children with ASD
- Current evidence related to literacy outcomes in children with ASD
- Go over basic process in which to insert strategies
- Intervention strategies that focus on reading comprehension issues that typically challenge children with ASD



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# CASE EXAMPLE: BENNY

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## Benny-Age 12

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- Diagnosed at 18 months years of age
- Started talking at age 2 but only colors and letters
- Very echolalic until age 8
- Met him at age 10
- Conversational Sample (30 minute sample about Science experiment done in a previous session)
  - Was a consistent responder
  - Never initiated
  - Consisted mainly of one to three words responses with some longer responses that had a scripted flavor



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# CONVERSATION AND ASD

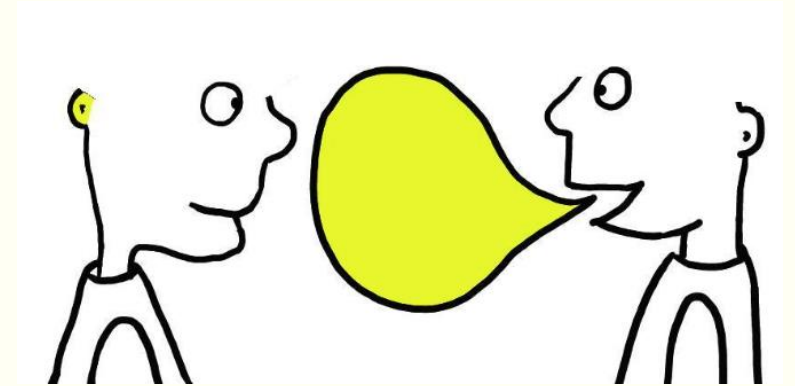
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# Basic Framework of Conversation

(Beukelman and Mirenda, 2015)

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- **Greeting**
  - Availability for talking
  - Body language important
  - Small amount of vocabulary
- **Small Talk**
  - Limited number of topics
  - Conversation may go to closing from here
- **Sharing Information**
  - Unlimited number of topics
- **Closing**
  - It's time to stop talking



# Theory of Mind Considerations

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- **Need to adopt other's perspective to be effective in conversation (Chin & Opitz, 2000)**
- **Conversational areas to be considered (Brinton, Robinson, & Fujiki, 2004; Fujiki, Briton, McCleave, & Anderson, 2013)**
  - **Maintaining topic**
  - **Turn taking /Reflective listening**
  - **Initiation/Questioning/Commenting**
  - **Clarification/Repair**
- **Mental state terms and personal experiences are conversational devices are frequently used in conversation. Children with ASD use less mental state terms than children who are typically developing (Bang, Burns, Nadig, 2013)**

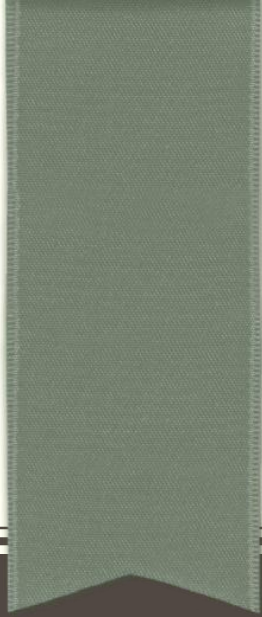
## ToM, Central Coherence, and Executive Functioning in a Conversational Whole

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- **The interactional nature of conversation demands that we think not only in terms of cognitive and linguistic development but also the context of the utterance (Dore, 1986; Sterboni, Kirby, & Shankey, 2015)**
- **While constantly checking our memory store for social scripts and social knowledge, we must:**
  - **Recognize context and social cues**
  - **Interpret the context and social cues**
  - **Select response content from many options**
  - **Construct a response**
  - **Produce the response**
  - **Listen for more cues and start cycle over again**
  - **Recognize when there is a need for clarification or repair**





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# INTERVENTION SUGGESTIONS

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# Pivotal Response Training: Questions

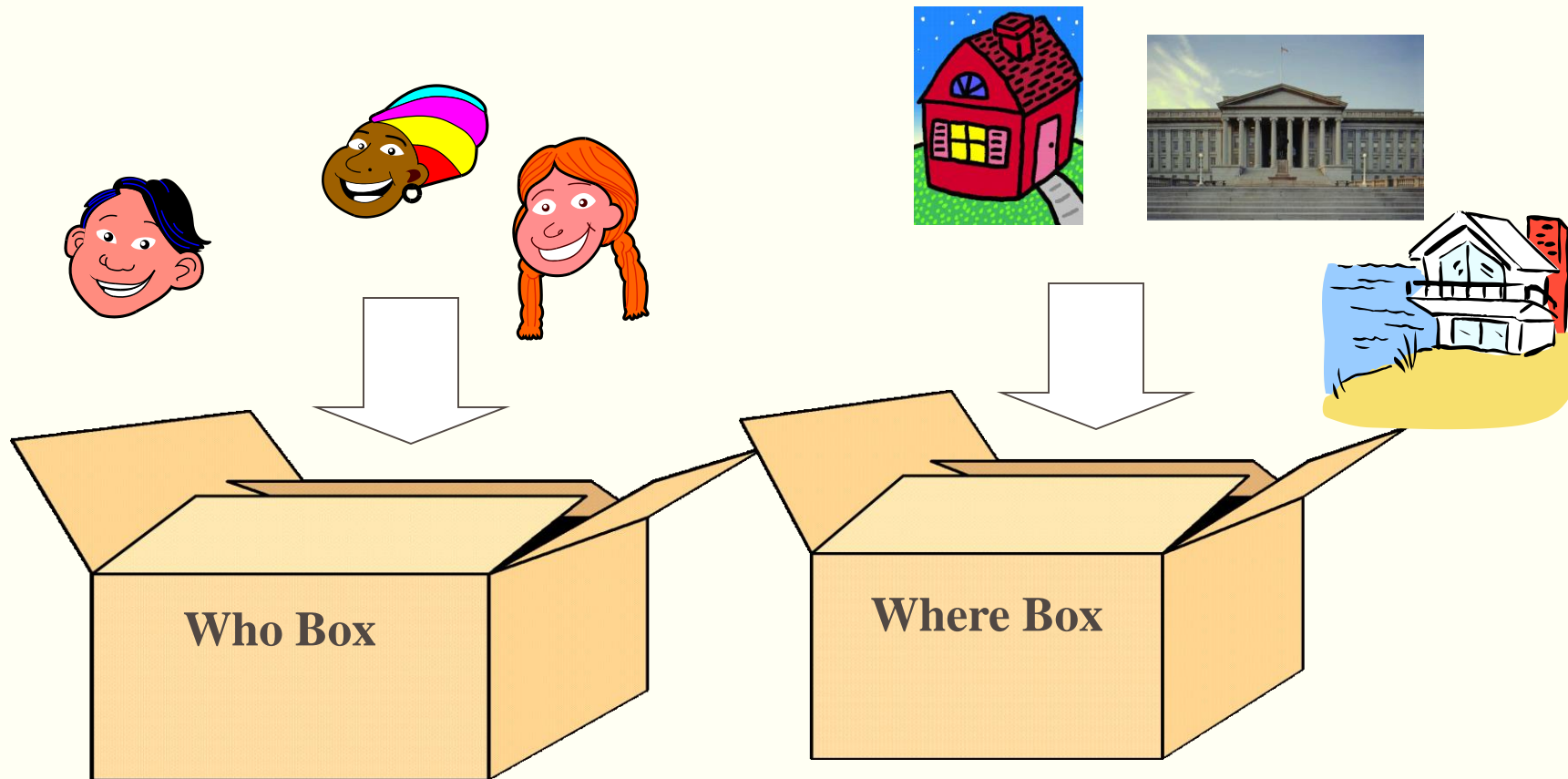
(Doggett, Krasno, Koegel, & Koegel, 2013; Stockall & Dennis, 2013)

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- Asking questions is a pivotal response
  - Initiation
  - Questioning
  - Continuing conversational exchange
  - Interest in others
- Used ‘What is it?’ (Gifts; odd objects); ‘Where is it?’ (Visual schedule; important things needed in experiments or recipes); ‘Who is it’ (Knocking on the door; pictures that were partly covered); ‘What happened?’ (Cause/Effect; Telling events that happened while gone); ‘What do you think?’ (Answers to problems; Prediction)
- Effective when used with self management techniques

# Possible Addition before PRT Questions: Wh question sorting

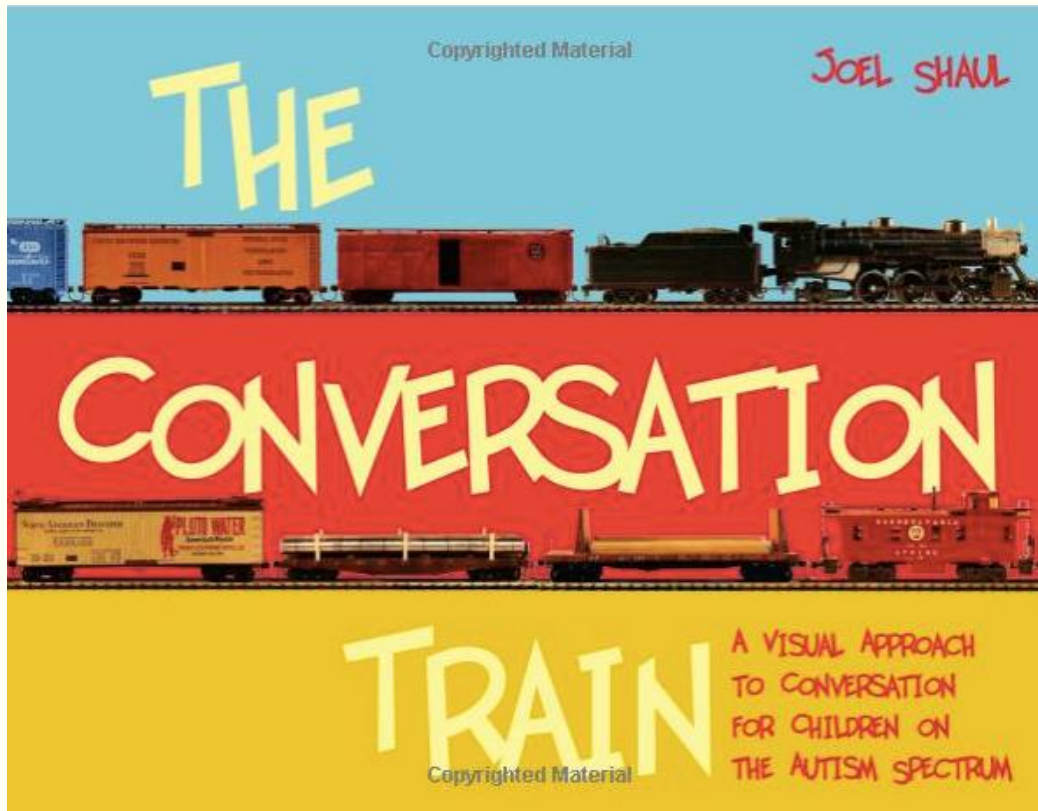
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# Making Conversation Visual

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"Hi."

"Hello."



"How are you?"

"Fine, thanks."



"So, how do you  
like this snow we've  
been getting?"

"Great! We had a  
snowball fight last  
night!"

# Conversational Chart with Friends

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Benny	Sally	Sam	David
Likes You Tube Legos Movies Swimming Martial Arts	Likes Swimming Coloring Movies Taking Videos Animals	Likes Minions Movies Ponies Martial Arts	Likes Angry Birds Minecraft Legos Martial Arts
Dislikes Loud Noises No Writing	Dislikes Loud Noises Pink Math	Dislikes People too close Writing	Dislikes Smells Yelling

# Extension: Making Conversation Visual

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Benny  
Benny

David

David

Benny

David

You Tube

Martial Arts



## Used His Narrow and Restricted Interest to Help Him Learn Listener Perspective

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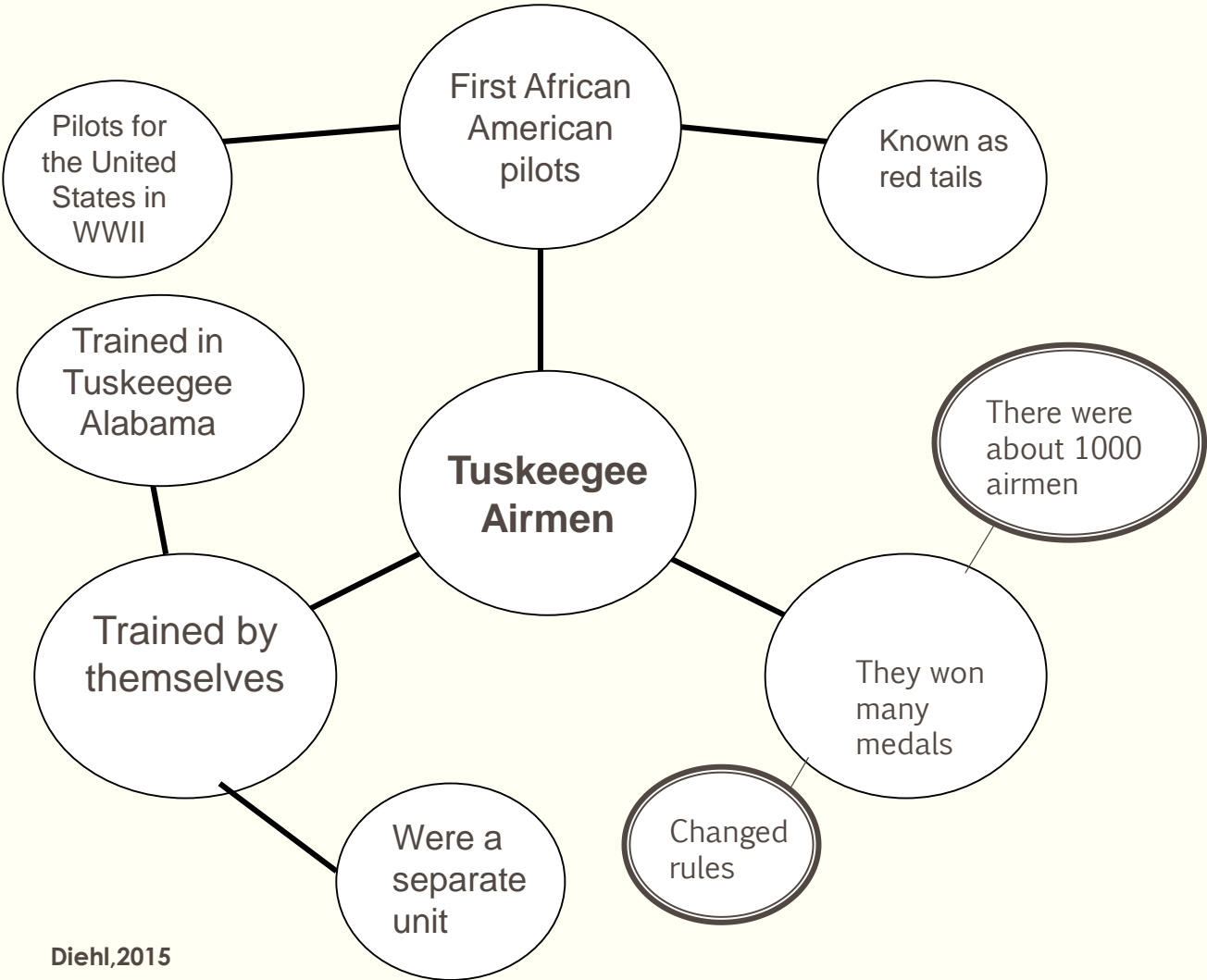
- **Made You Tube videos of science experiments**
  - **Worked on sequencing**
  - **Summarizing**
  - **Body language and facial expressions**
  - **Orientation of his body to materials and materials to the camera**
- **Had Benny make the same video for two different people**
  - **Had to think about their age**
  - **Had to think about how much science knowledge they had**
  - **Had to think about what they might have at home and what they might need to buy**

# Semantic Mapping

(Great for classroom discourse)

(Rosenbaum, 2001)

Benny, it's time to talk about You Tube. You can talk about You Tube after class.



  
Have you seen the you tube video about .....

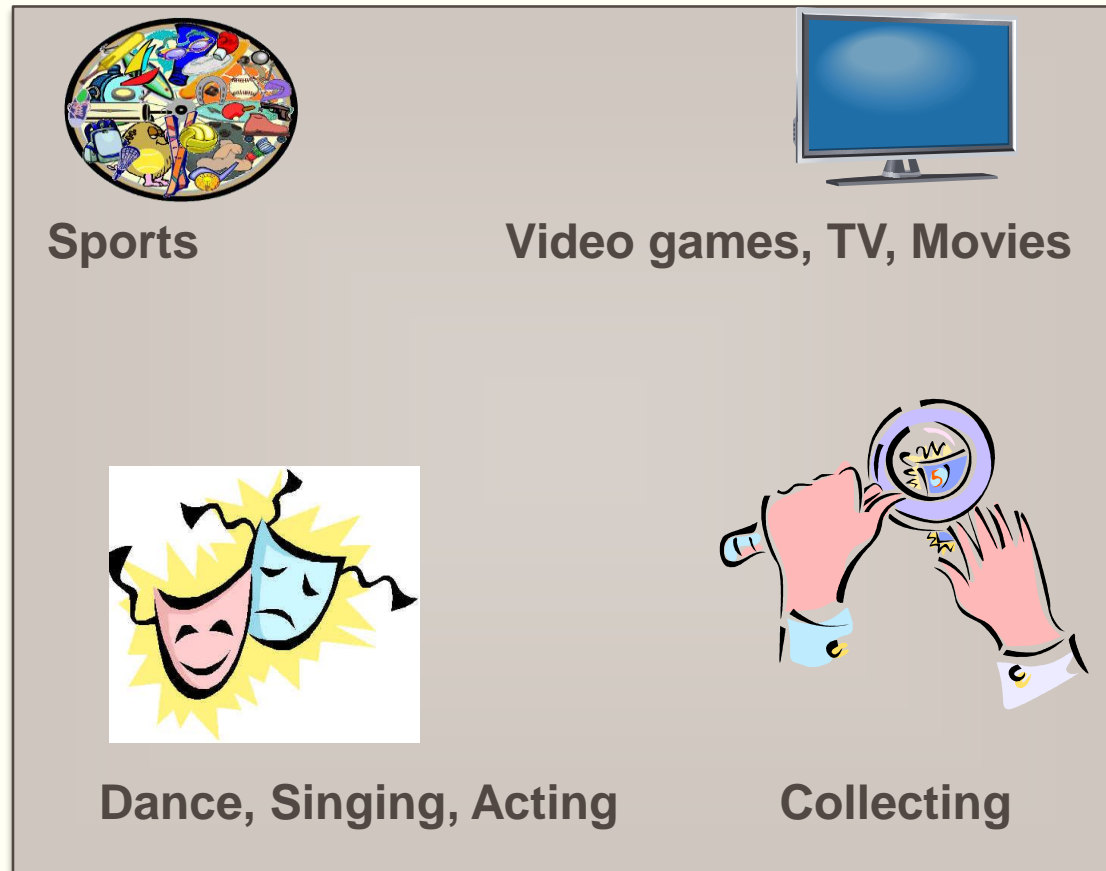




# Four Corners

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- Choose your favorite hobby
- Go to the corner of the room that shows your hobby
- Discuss the reasons why you like the hobby



Sports

Video games, TV, Movies

Dance, Singing, Acting

Collecting

# Technology Support Suggestion

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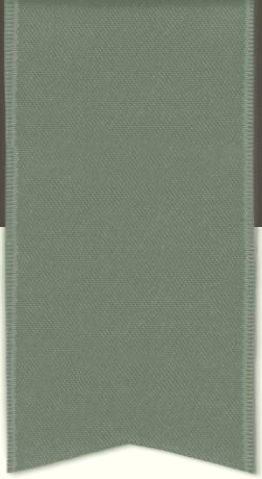
- Conversation Builder App
- Script stories using powerpoints
  - Particularly effective to support pretend play using multiple roles
- Picture cues on phones
- Script cues on phones
- Pictello App



# Pictello Story

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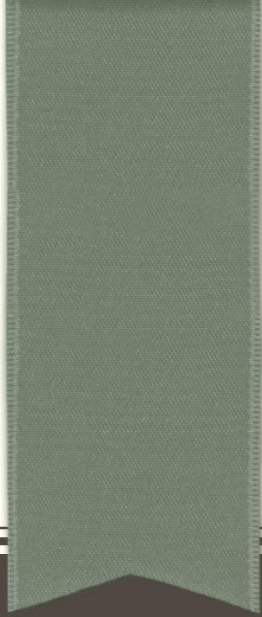
# COMPREHENSION ISSUES FOR CHILDREN WITH ASD

# Particularly Challenging Areas in Reading Comprehension

(Brown, Oram-Candy, Johnson, 2013; Randi, Newman, & Grigorenko, 2010; Sensokossoff, 2016; Whalon, Al Otaiba, Delano, 2009)

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- **Connecting to prior knowledge**
- **Semantic Knowledge**
- **Anaphoric Reference**
- **Character Perspective**
- **Inferencing**
- **Summarizing**



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# OVERALL PROCESS SUGGESTION

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## Guidance from Literature

(Finnegan & Mazin, 2016; Omar & Biden, 2015; Williamson, Carnahan & Birri, 2015)

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- Guidance from the literature takes four forms:
  - There are a few interventions that have been specifically studied for children with ASD (anaphoric cuing; peer supports; collaborative grouping; visual supports; graphic organizers; QAR; technology; reciprocal questioning; taking text in smaller sections; repeated reading)
  - Many authors have recommended that what is recommended for typical readers is good for children with ASD (implicit & explicit instruction; comprehension monitoring, story structure; question generation)
  - Take EBP for typical readers and add visual supports
  - Take EBP for ASD and adapt it for reading comprehension (video modeling; visual schedules; self management;

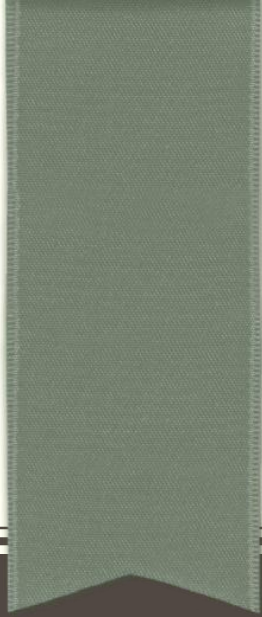
# Overall Process

(Nguyen, Leytham, Whitby, Gelfer, 2015)

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- Consider Using This Overall Process to Insert Strategies
  - Activate Schema and Build Background Knowledge/Visuals
  - Create Mental Images/Visuals/Make Connections/Visuals
  - Engage in Consistent Discussions/Segment Small Sections/Visuals
  - Summarize Understanding/Visuals





# CHOOSING TEXT

# What text provides the best vehicle?

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- Select a passage with characters or multiple perspectives
- Consider passages with one or more of the following:
  - Passages with foreshadowing allow prediction
  - Parables and fables require inference allow with perspective
  - Passages that provide chances for children to discern meaning of vocabulary words from the passage
  - Passages that have opportunities for anaphoric reference
  - Passages from classroom text, related to social challenges, or related to classroom content



# Boy Who Cried Wolf



A shepherd boy tended his master's sheep near a dark forest not far from the village. Soon he found life in the pasture very dull. All he could do to amuse himself was to talk to his dog or play on his lyre.

One day as he sat watching the sheep and the quiet forest, and thinking what he would do should he see a wolf, he thought of a plan to amuse himself.

His master had told him to call for help should a wolf attack the flock, and the villagers would drive it away. So now, though he had not seen anything that even looked like a wolf, he ran toward the village shouting at the top of his voice, "Wolf! Wolf!"

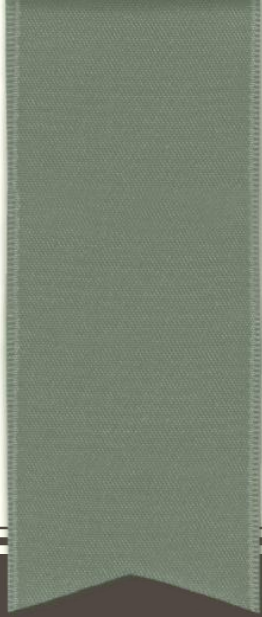
As he expected, the villagers who heard the cry dropped their work and ran in great excitement to the pasture. But when they got there they found the boy doubled up with laughter at the trick he had played on them.

A few days later the shepherd boy again shouted, "Wolf! Wolf!" Again the villagers ran to help him, only to be laughed at again.

Then one evening as the sun was setting behind the forest and the shadows were creeping out over the pasture, a wolf really did spring from the underbrush and fall upon the sheep.

In terror the boy ran toward the village shouting "Wolf! Wolf!" But though the villagers heard the cry, they did not run to help him as they had before. "He cannot fool us again," they said.

The wolf killed a great many of the boy's sheep and then slipped away into the forest.



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GENRE

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# Give Purpose for Reading (Westby, 2010)

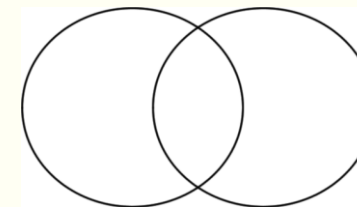
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Type	Purpose
Descriptive	This text gives facts about something.
How to	This text tells how to do something.
Problem/Solution	This text talks about a problem and how to solve it.
Compare/ Contrast	This text talks about the sameness and difference between two things or ideas.
Cause Effect	This text gives a reason why something happened.

# Use Graphic Organizers Wisely

- Make sure it fits the genre
- Don't use too many kinds
  - Confusing
  - Want them to recreate
- Types
  - Descriptive-Semantic Map
  - How to-Progression
  - Compare/Contrast-Venn
  - Cause Effect-Arrow



name \_\_\_\_\_

Cause	Effect
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

Linda J. Bukhat www.Lbukhat.com

First	<input type="text"/>
Second	<input type="text"/>
Third	<input type="text"/>

# Genre: Don't forget the non-specific words

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- Many of the words that we use in different genres especially content level genres are non-specific
  - Tend to overuse 'and'
  - Use repetitive literature to help (Paul, 2012)
  - Teach them at microstructure level to help them
  - Sentence combining is helpful
  - Powerful tools for oral discourse because allows them to express complex thoughts



Before Reading

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# INTERVENTION SUGGESTIONS

Activating Schema/Building Semantic  
Knowledge

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# Pairs Vocabulary Hunt

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- Team students have them lock arms so they have to plan their movement together
- Put vocabulary pictures or words around room have students coordinate walking around and to collect them.
  - Use pictures to pre-teach vocabulary words
  - Use pictures to connect to knowledge
  - Prediction what the text is about
- Primes their vocabulary along with teaching how to titrate movement with another person

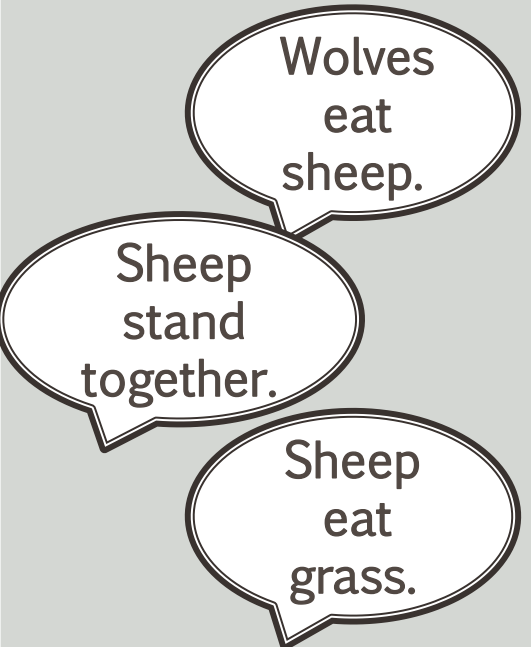
# KWLH

(Ogle & Carr, 1987)

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- Group activity that helps students activate prior knowledge. Visually lets students see many students thoughts.
  - What I know
    - Brainstorming
  - What I want to know
    - Student directed discovery
    - Use multiple references
  - What I learned
    - Summarizing what learned
  - How can we learn more

# KWLH: Side Learning Unit about Grain

What I know	What I need to know	What I learned	How can I learn more
 <p>Wolves eat sheep.</p> <p>Sheep stand together.</p> <p>Sheep eat grass.</p>	<ul style="list-style-type: none"><li>-What is a shepherd?</li><li>-What does 'crying wolf' mean?</li><li>-What is a fable?</li></ul>	<ul style="list-style-type: none"><li>-A shepherd guards the sheep.</li><li>-This story is written by Aesop.</li><li>-A fable teaches a lesson through a story.</li></ul>	<ul style="list-style-type: none"><li>-List books, websites, any other resources</li></ul>

# Making Connections Plus

(Keene and Zimmerman, 1997; Diehl, 2016)

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Text and you



Have you ever seen a wolf or a sheep?

Has your friend seen a wolf or a sheep?

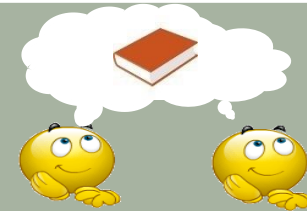


Text and other books



Have you ever read any other books about a wolf (i.e., Three Little Pigs)

What books have you and a friend both read?



Text and the world



Do you think we still have shepherds?

# Time for a laugh!

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During Reading

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**INTERVENTION SUGGESTIONS  
ASKING QUESTIONS, DISCUSSIONS,  
ANAPHORIC REFERENCE**

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# Intervention Strategy: Shared Storybook Reading

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- Research supports the effectiveness of storybook sharing:
  - A predictor of early reading abilities in children with ASD (Davidson & Weismer, 2013; Dynia, Lawton, Logan, & Justice, 2014)
  - Increasing vocabulary development (Coyne et al., 2004; Sharif, Rieber, Ozuah, 2002)
  - General linguistic performance (Crain-Thoreson & Dale, 1999; Mendelsohn, Mogilner, & Dreyer, 2001)
  - Emergent literacy knowledge (Justice, Pullen, Pence, 2008; Justice, 2002)
- Most effective when reading aloud with children along with instructional strategies such as expansions, modeling, and praise (Whalon, Martinez, Shannon, Butcher, & Hanline, 2015)

# Anaphoric Relations: Thinking About Nonspecific words

(O'Connor & Klein, 2004; Roux, Dion, Barette, Dupere, Fuchs, 2015)

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- Anaphoric reference means that a word in a text refers back to other ideas in the text for its meaning.
- Students with autism have difficulty knowing what unspecified words refer to
  - He, She, It, Her, His, Us, We, You, Them, Their,
  - This, That, Those, There, Something
- What to do about it?
  - Give simple checks throughout reading

A shepherd boy tended his master's sheep near a dark forest not far from the village. Soon he found life in the pasture very dull. All he could do to amuse himself was to talk to his dog or play on his lyre.

Shepherd boy

Ariel

Villagers



## Summarizing: Highlight Tape and Sticky Notes

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- Have students read story together and either highlight important words/phrases with highlight tape
  - <http://www.abcstuff.com/items/HT005.html>
  - <http://www.highlightertapes.com/price.html>
  - <http://www.amazon.com/Lee-Products-Company-Removable-Highlighter/dp/B0013ZR35Q>
- Have students write them down on a sticky notes
- Form collaborative group or dyad
- Have them share notes in a discussion
- Put sticky notes in order on one page
- Write summary together from sticky notes

# Comic Strip Conversation Symbols

(Gray, 1994)

## Some Symbols



talk



think



interrupt

LOW  
quiet



listen as part of a  
group

# Character Perspective

Watching the sheep is boring I think I will play a trick.



We will help the shepherd boy. He saw a wolf.





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# INTERVENTION SUGGESTIONS

Post reading

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# Collaborative Learning Groups, Peer Support, and Vocabulary

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- **General education students had significantly higher literacy achievement scores when instructional interventions utilized cooperative and collaborative activity structures according to a meta-analysis (Puzio & Colby, 2013)**
- **Peer training packages are an established evidence-based strategy (National Standards Project, 2015)**
- **Two studies focused on vocabulary in children with ASD (Dugan, Kamps, Leonard, Watkins, & Rheinberger, 1995; Kamps, Leonard, Potucek, Garrison-Harrell, 1995). Both focused on peer support in an inclusive setting.**

## Collaborative Groups General Hints

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- **Keys to successful collaboration**
  - **Establish importance**
  - **Define roles**
    - **Task director**
    - **Time Keeper**
    - **Recorder**
    - **Praiser/Encourager**
    - **Announcer/Summarizer**
  - **Give suggested language**

# Cooperative Learning Group Example

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- Recorder

- Write down what team says

- Repeat the words to the teacher



- Recorder Language

- Is this what I should write?

- Please slow down.

- Say that again please.

- Here's what I have so far.

- What should I write next?

# Cooperative Learning Group Example

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## Task Director

**Job: Keep team on task. Make sure your team understands and agrees with the answers.**



## Things to say:

**Let's review the rules.**

**Should we ask the teacher?**

**We have one more part to do.**

**Let's read the directions again.**

**Does everyone understand?**



# Cooperative Learning: Sticky Note Vocabulary

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- Students are divided into cooperative groups
- Students read selected text
- Students use sticky note to mark words that don't understand.
- Students go through sticky notes together and can do numerous activities:

- Write down definition
- Use in sentence
- Fill out graphic organizer
- Use Expanding Expression Tool

Word	Definition	Sentence	How used in text
snout	nose that sticks out on an animal's head	The pig has a snout.	The wolf has a snout with is shorter than the stork's bill.

# Cooperative Learning: Key Words

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- Let each child have a ring (shower curtain rings, page holder rings, etc.) to keep words cards of interest and need. These key word rings would be hung on hooks or nails in one location in the classroom.
- Precut cards (with one hole punched on the end) should be ready for you and the child to write the word together in standard spelling.
- If a child needs you to spell or write a word, it is put on the card and becomes the child's special word
- The class/group quickly remembers which children have which word and prompts class support.



# Voting Main Idea

(Roux, Dion, Barette, Dupere, Fuchs, 2015)

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- Give the children cards to vote for 1, 2 or 3.
- Start with just picking from disparate content areas and similar language and gradually make it more difficult. Include any narrowed or restricted interests in foils so they are not just choosing what they like.
- This was a story about:
  1. Where panthers live
  2. A boy who lost his Mom
  3. A shepherd boy
- This was a story about:
  1. Tigers and elephants at the circus
  2. Mean animals who bit people
  3. A boy who played a joke on villagers.
- This was a story about:
  1. A boy who liked wolves.
  2. A wolf who played Star Wars.
  3. A boy who lied and then wasn't believed.



## Summarizing: Building on Main Topic Work

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- Use a variation of the team walk and put story sentence strips to find
- Tell them they are gathering clues like a detective
- Add nonsense or unimportant strips
- Have them sort in important and unimportant boxes
- Put important ones together
- Copy to write summary

# Summarizing: Choosing important things

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- Play a game of ‘what doesn’t belong’
  - Wolves, tables, shepherd boy
  - The shepherd boy was bored. Chewbacca is a very tall Wookiee. The villagers were mad at the shepherd boy.
- Move to choosing what sentences are important
  - The donkey was very old. He had trouble carrying wheat to the mill because he was weak and tired. The donkey really liked music. His master was upset because he couldn’t work anymore. The master liked music too. The donkey decided to run away to find work that he could do even though he was weak and tired.

# Compare/Contrast



# Character Map/Who-Did-What Sequence

(Gately, 2008; Williamson, Carnahan, Birri, Swoboda, 2015)

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Who

1. Shepherd boy
2. Villagers
3. Wolf

Did what

1. Cried “wolf!”
2. Didn’t believe shepherd boy because he lied
3. Ate sheep

# Character Role-Playing

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- Write story board with speech and thought bubbles
- Choose characters
- Role play the characters
- Write story together that parallels the characters or actions in the story
- Role play characters





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# COMBINING SOCIAL SKILLS AND LITERACY UNIT

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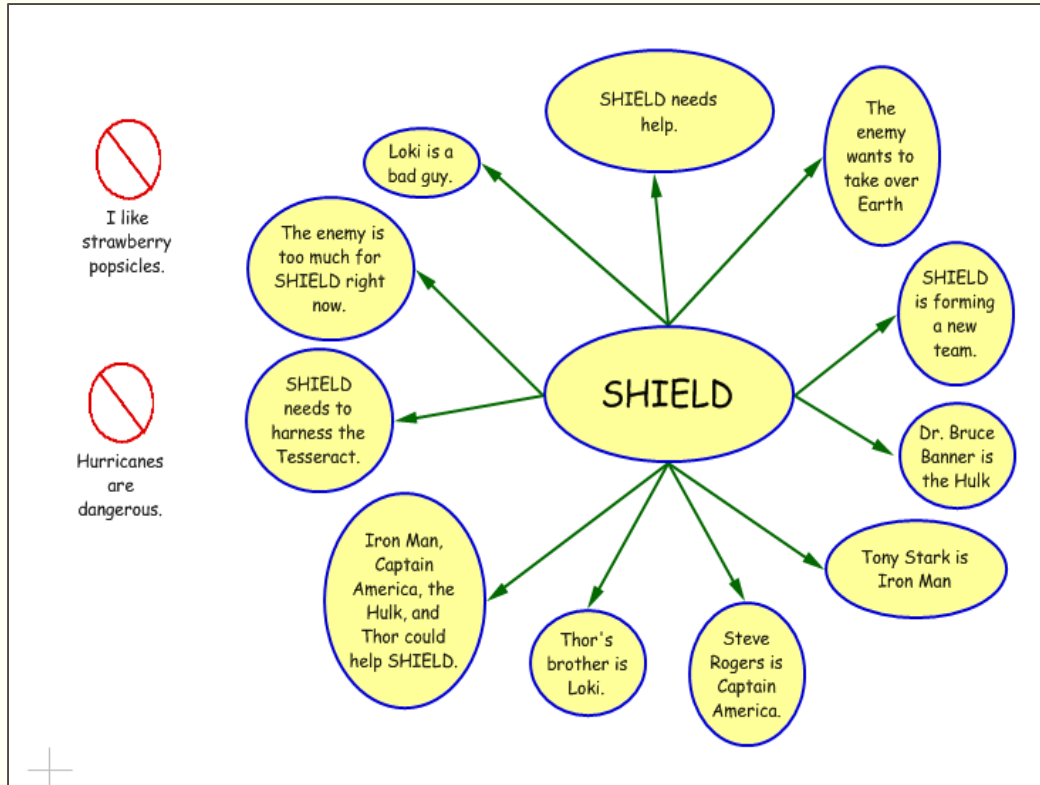
# Comic Strip Videos (Diehl, 2014)

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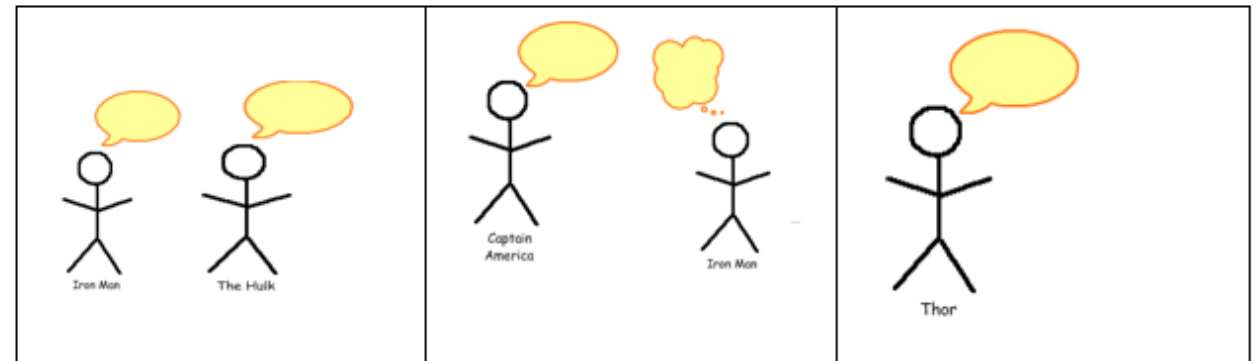
- Pilot intervention that incorporated many of these target areas along with working on social behaviors. 4 boys participated
- Choose text/video ( Chose Avengers because boys liked it and there were four characters: , IronMan, Captain America, Hulk, and Thor)
- Gave them pictures and description of characters
- They choose their characters and brought in “costumes”
- Each day: Read parts of text, did semantic map
- Gave them cartoon maps
- They filled in cartoon bubbles (thought and speech) according to what their character would do
- Re-enact and video (Can incorporate body language and social referencing)
- Review video with checklist



# Examples of Summary Map and Storyboard



Example Semantic Summary Map



Example of Storyboard

# Dialogue Checklist

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#	Dialogue Tip	+ - ~
1	Not too close; Not too far (about 1 arm's length if standing)	
2	Body facing talking partner	
3	Eyes checking in with talking partner(s)	
4	Appropriate volume	
5	Face showed the appropriate emotion	
6	Listened when talking partner talked	
7	Delivered the right message	
8	Reply to talking partner was timely	

+Just right

~Could use a little work

- Whoops, I forgot!

# Ticket out the door

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1. Write down three things you will use in your practice
2. Share in a group
3. Have a lovely evening

Thank you for all you do for kids!

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