

THE INTERSECTION OF COGNITION AND LITERACY IN STUDENTS WITH AUTISM SPECTRUM DISORDERS

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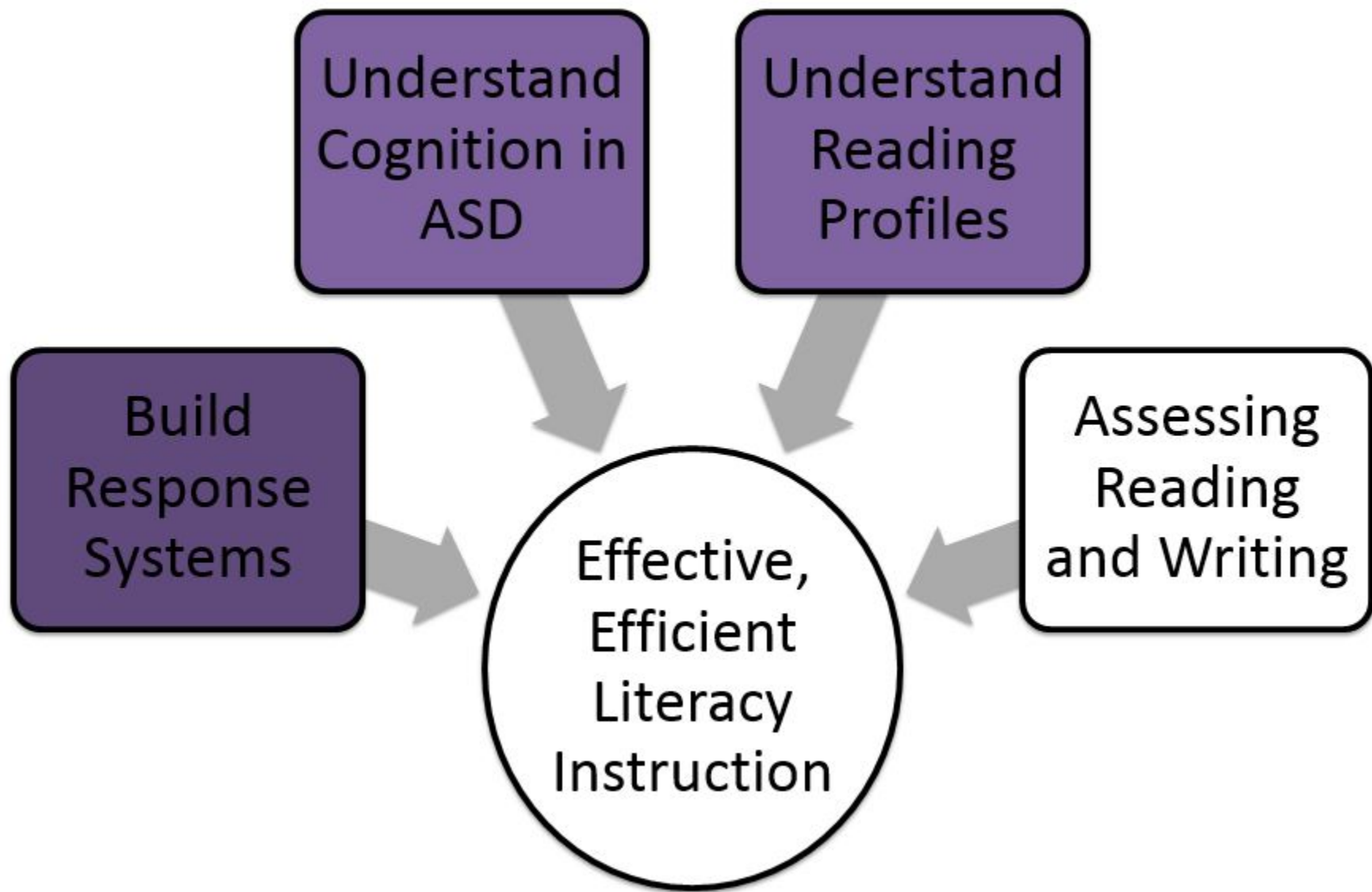
OVERVIEW

- **Three Webinar Series:**
 - **Session 1: Building response systems, reading comprehension, cognition in ASD, and linking cognition and reading comprehension through reading profiles.**
 - **Session 2: Assessing literacy needs of students with ASD**
 - **Session 3: Creating high quality literacy instruction for students with ASD**

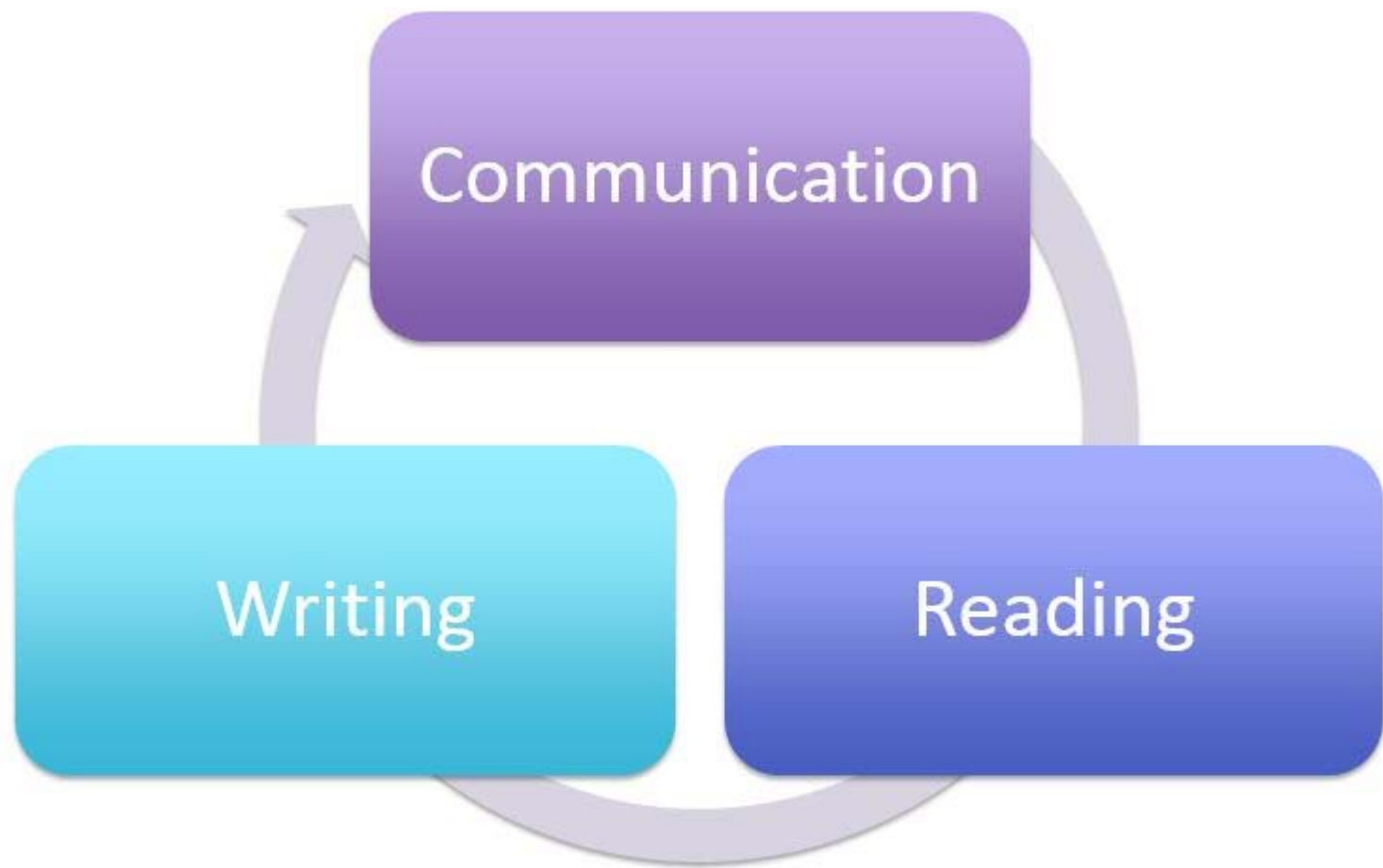
- **Introductions**

- **What is reading comprehension?**

- **Reading Comprehension profiles in ASD**



**BUILDING RESPONSE
SYSTEMS:
COMMUNICATION AS THE
FOUNDATION FOR
LITERACY**



RESPONSE SYSTEM: A BACKDOOR APPROACH

- Pat Mirenda's (2008) "backdoor approach"
 - A commitment to creating "a viable, robust, flexible, and generative communication system that will support long-term language development" (p. 225)
- Strength based approach
 - Ignores labels
 - Incorporates strengths
 - accounts for common motoric challenges
- Pushes past, "I want cookies"

VIDEO

- **Before, watching consider:**
 - What's currently happening in your classroom to support student response systems?
- **As you watch, consider:**
 - How is this video related to how we build response systems in our classrooms?
- **After you watch:**
 - **Consider**
 - How does this affirm your current thinking and teaching?
 - How does this challenge your current thinking and teaching?
 - **Share comments**

JEREMY VIDEO

VIDEO

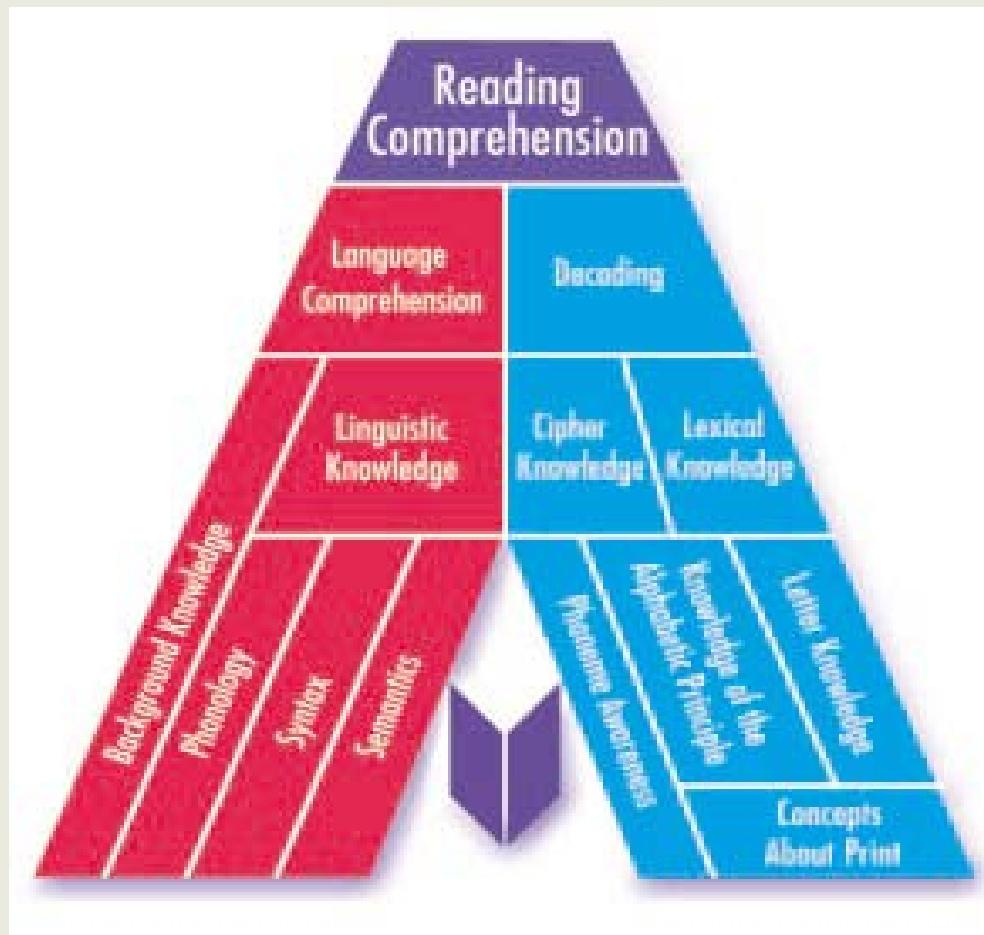
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READING COMPREHENSION

READING ACQUISITION FRAMEWORK (SEDL, 2001) AVAILABLE AT

<http://www.sedl.org/reading/framework/>



COMPREHENSION PROCESSING: CONSTRUCTION INTEGRATION MODEL

- Levels of processing
 - Text base
 - What's included in the text by the author
 - Situation model
 - Relevant background knowledge and experiences brought by the reader that are inspired by the text
 - Both of these require different kinds of inferences
 - Kintsch, 1998

TEXT BASED INFERENCES

- **Deductive, related to syntax**
 - **Word level inference**
 - **Anaphoric inference: infer what pronouns are referring to**
 - **Sentence or paragraph level (distance matters: local, global)**
 - **Connective inference: words that join clauses, sentences, or paragraphs together to help us construct meaning**
 - **Logical inference: a conclusion can be drawn from information stated in the text**
 - **Explanatory inferences: drawn from the reader's various domains of knowledge and connected to the text. Necessary for constructing a text base.**
- **Caitlin went to the candy store. She bought chocolate there.**

INFERENCES MADE IN THE SITUATION MODEL LEVEL OF PROCESSING

- **Inductive**, identification of unstated connections in the text that are plausible or logical

- **Backward elaboration**: requires semantic memory

Ayse was running in order to catch her class. She stepped on a banana peel. She found herself on the ground.

- **Default inference**: automatic assumptions

The children went into the deep, dark woods.

- **Predictive inference**: draws on knowledge and experience to anticipate what might happen next

The angry waitress was totally fed up with the hassles of her job. As she approached the table with a plate of spaghetti, the customer commented, "That looks awful."

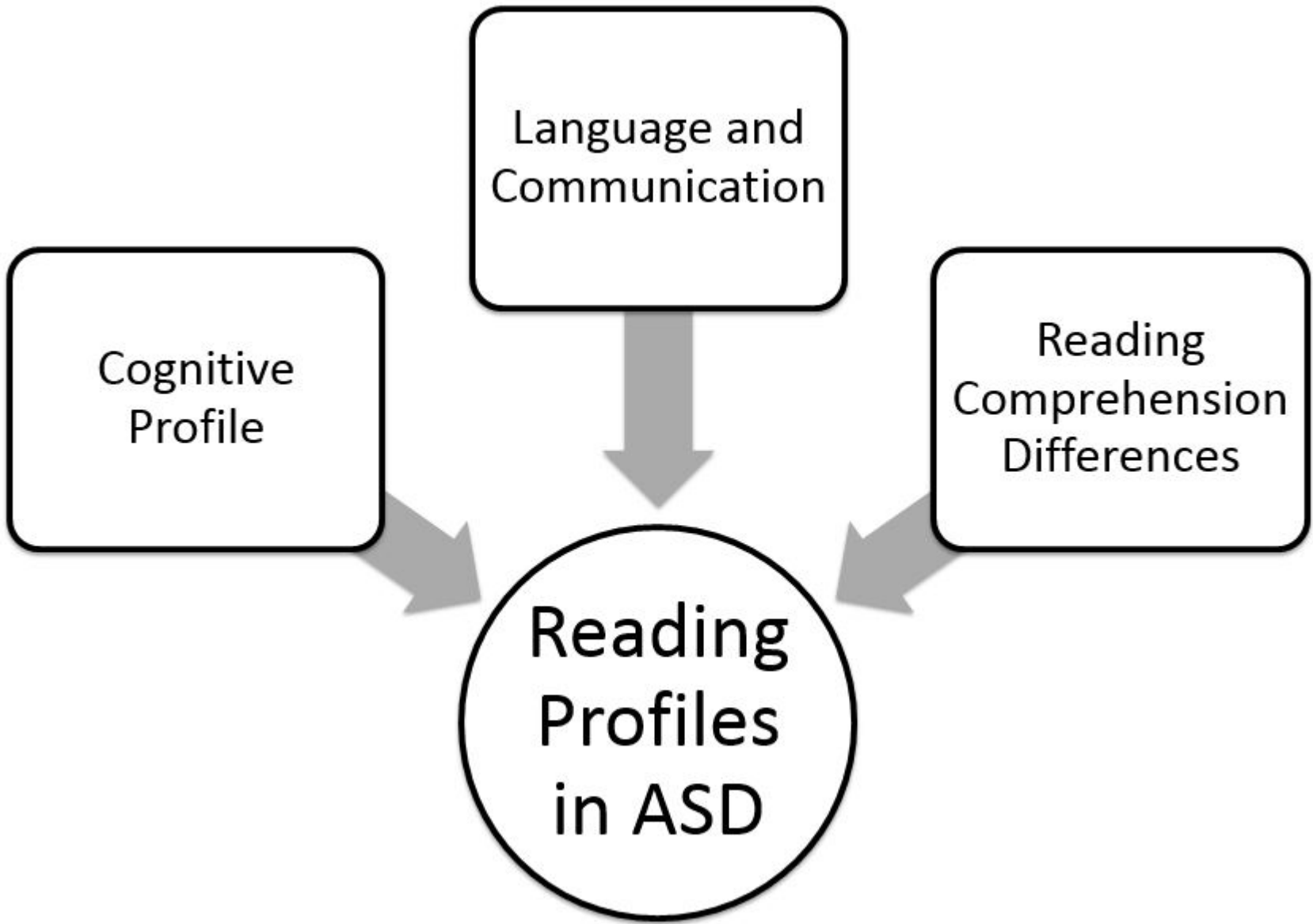
SUMMARY

- Looking back to slides 11 – 14, summarize the key ideas regarding reading comprehension for students with ASD.
 - Consider the text base and situation model
 - Consider the different types of inferences



**THE INTERSECTION
OF COGNITION
AND LITERACY:**

**READING PROFILES
IN AUTISM
SPECTRUM DISORDERS**



COGNITIVE PROFILE IN ASD

- **Theory of Mind**
 - Cognitive characteristics
 - Influence of these on literacy
- **Executive Function**
 - Cognitive characteristics
 - Influence of these on literacy
- **Central Coherence**
 - Cognitive characteristics
 - Influence of these on literacy
- **After listening to the description, think of a student who demonstrated differences in (ToM, EF, WCC). Describe a specific example of how (ToM, EF, WCC) influenced the student's learning or social interaction**



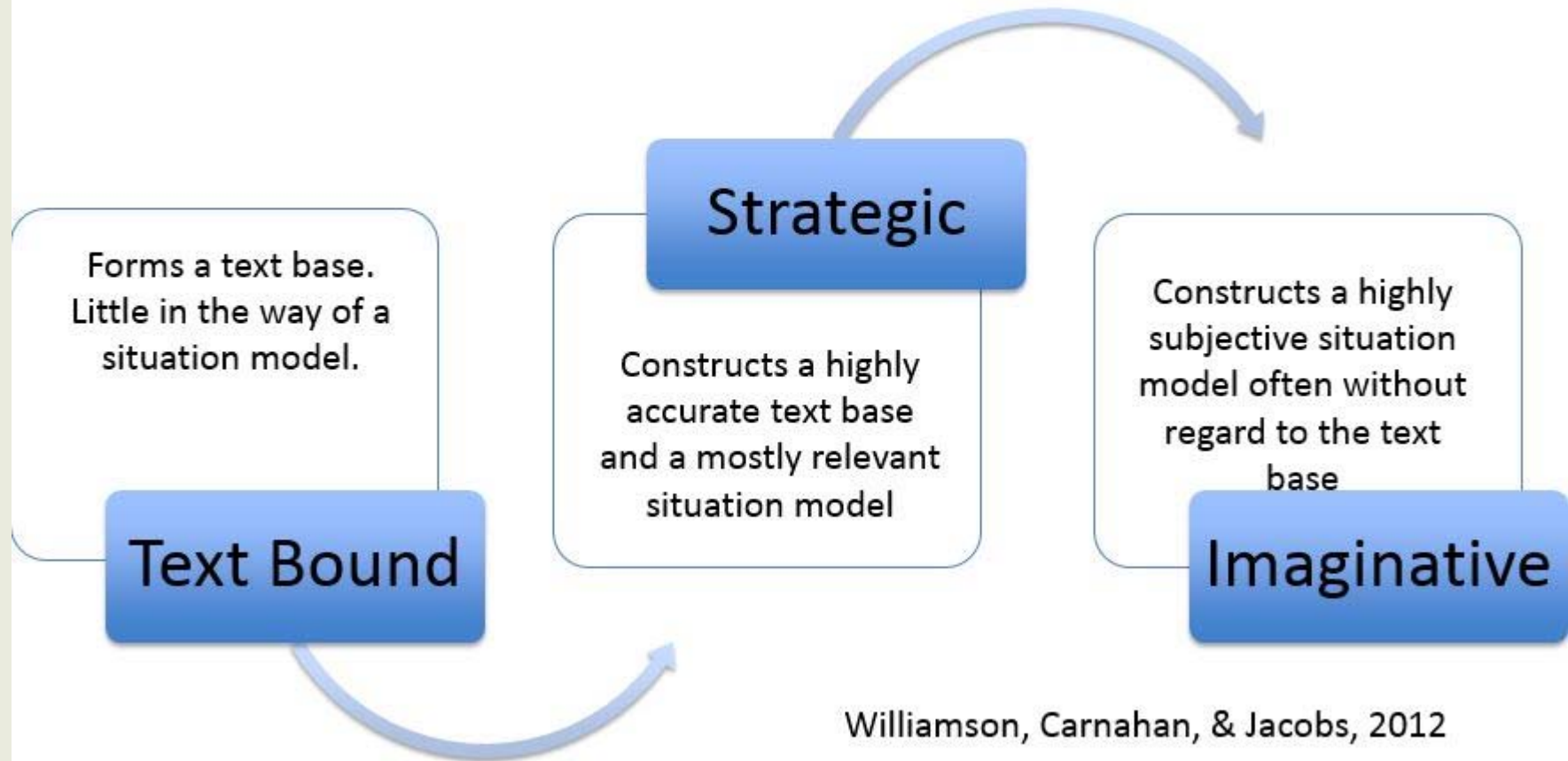
LANGUAGE AND LITERACY

- **Semantics and Syntax: Two important aspects of language**
 - **Semantic and syntactic knowledge not always on same level**
- **Some common characteristics**
 - **Limited word knowledge (e.g., vocabulary)**
 - **Difficulty with abstract language (e.g., idioms and similes)**
 - **Question forms**
 - **Yes/no**
 - **Explicit versus inferential**

COMPREHENSION CHARACTERISTICS

- The *spectrum* of reading comprehension differences
- Individual Differences
 - Text type
 - Background knowledge
 - Social knowledge

Comprehension Profiles in ASD



Williamson, Carnahan, & Jacobs, 2012

REFLECTION

- Identify at least one student with whom you currently work or worked with in the past.
 - About where would the student fall in the profile continuum?
 - Why (what behaviors) suggest the student fits the profile you identified?



ASSESSMENT FOR INSTRUCTION

FOUNDATIONS OF EFFECTIVE ASSESSMENT

- **Provide structure compatible with individual student needs**
 - Visual schedule
 - Reinforcement
 - Task demand
- **Progress monitoring versus data collection**
 - Progress monitoring and data collection are not the same, and neither is the same as teaching
- **Conduct baseline assessments to inform instruction**
 - Start with topics related to student interests
- **Connect instruction with what your assessment data suggests are needs**

PLANNING FOR ASSESSMENT

- **Determine a starting point for assessing students' literacy levels (see interactive to indep lit)**
 - This guides selection of additional literacy assessments
- **Select literacy assessments compatible with the student's global literacy level**

FRAMEWORK FOR THINKING ABOUT ASSESSMENT

KADERAVEK & RABIDOUX (2004)

1	<p>Focus on joint attention and response/engagement in literacy activities with a partner. Onus for building engagement is on the partner. Begin with individual's interests.</p>
2	<p>Focus on mutual interactions and turn taking between the emergent learner and the literacy partner; high levels of reinforcement while participating in a variety of literacy interactions.</p> <p>The partner builds on the individual's gestures, vocalizations, words, etc..</p> <p>If the teacher asks the child to engage in skills "beyond the child's interest or ability, then the balance and the dynamic social support of the interaction may be lost" (p. 246).</p>
3	<p>The individual begins to understand the "symbolic relationship of written language forms" (p. 246).</p> <p>For example, they begin to that the printed text corresponds with the words the partner reads.</p>
4	<p>The learner begins to use conventional literacy skills with support.</p>
5	<p>The learner independently uses conventional literacy.</p>

REFLECTION

- Consider a student you currently work or have worked with in the past
 - About where would the student fall in the interactive to independent literacy continuum?
 - What skills, behaviors, etc did they demonstrate to suggest this level?



SUMMARY AND NEXT STEPS

- Identify three big ideas from our session today
 - How will these influence your assessment and/or instruction (think next steps)?
 - What questions do you have related to the content?
- Next session:
 - The Interactive to Independent literacy continuum (assessing learner needs)

SELECTED REFERENCES

- Carnahan, C., & Williamson, P. (2010). Autism, cognition, and reading. *Quality literacy instruction for students with autism spectrum disorders*, 21-44.
- Kaderavek, J. N., & Rabidoux, P. (2004). Interactive to independent literacy: A model for designing literacy goals for children with atypical communication. *Reading & Writing Quarterly*, 20(3), 237-260.
- Williamson, P., Carnahan, C. R., & Jacobs, J. A. (2012). Reading comprehension profiles of high-functioning students on the autism spectrum: A grounded theory. *Exceptional children*, 78(4), 449-469.