

Literacy Instruction for Minimally Verbal Students With Autism

Julie Thompson, Ph.D.

Assistant Professor of Special Education at Texas A&M University

Introduction

It can be a challenge to develop effective literacy instruction for minimally verbal students with autism (MV-ASD) who may also have intellectual disabilities. However, several instructional strategies can be readily incorporated into daily literacy and content instruction to support their access and comprehension. This brief covers three such strategies: a task analysis to promote access to grade-appropriate connected text, a modified system of least prompts for passage comprehension, and a graphic organizer. What follows is (a) a description of each strategy and its benefits, (b) research highlights for each strategy, and (c) specific examples of each strategy.

What the Strategies Are

A **task analysis** for promoting literacy is a systematic list of directions for teachers or peers to guide students with MV-ASD through a passage of text, providing them with consistent, predictable prompts that increase opportunities to practice literacy concepts.

A **modified system of least prompts** for passage comprehension is an instructional approach that allows students with MV-ASD to answer comprehension questions independently before being prompted. Prompting, which ranges from least intrusive (i.e., read a portion of the passage) to most intrusive (i.e., point to the answer in a text or tell answer if inferential), is used to get students to reference a text to determine the answers to comprehension questions that are in the text (literal) or in their head (inferential).

A **graphic organizer** is a visual support tool that provides a framework for students with MV-ASD to organize, group, or categorize information from the text to demonstrate comprehension. This organizer can be in worksheet form or provided via technology.

What the Strategies Look Like

The teacher or peer uses a **task analysis** to guide students through connected text. First, the teacher or peer introduces the text with a related item, such as a feather for an informational text about migratory birds. Next, the teacher or peer helps the student identify the title, author, and beginning of the text (turning the page when

needed). After that, the teacher or peer asks preselected questions about the text, providing a preprinted response board if needed.

For comprehension questions, the teacher or peer uses the **modified system of least prompts**, guiding the student to reference the text by first reading the portion of the text that contains the answer or information needed to draw a conclusion and then re-asking the comprehension questions, providing a greater level of specificity with each subsequent prompt until the student indicates the correct answer.

In addition, while a student reads the text, or afterwards, the teacher or peer can have him or her complete a **graphic organizer** to record answers and summarize the content. This graphic organizer can also be used as a prompt to answer questions in the future or write a summary of the text.

Benefits

- A consistent presentation of connected text using a task analysis reduces cognitive load and allows students to focus on content instead of process.
- A task analysis, a modified system of least prompts, and a graphic organizer can be used for literature and informational texts.
- All three strategies have a simple, consistent format.
- All three strategies promote access to grade-level text and/or concepts.

What the Research Says

The consistent use of a **task analysis** to present connected text results in increased book awareness, early literacy skills, and comprehension across content areas for students with MV-ASD (Browder et al., 2012; Browder, Trela, & Jimenez, 2007).

A **modified system of least prompts** improves comprehension of read-aloud text across content areas for students with MV-ASD (Hudson, Browder, Jimenez, 2014; Browder, Root, Wood, & Allison, 2015).

A **graphic organizer** is effective for teaching students with moderate to severe intellectual disabilities and autism to answer comprehension questions across content areas (Knight & Sartini, 2014; Schenning, Knight, & Spooner, 2013).

Examples

Task Analysis

Prior to following the task analysis below, think about how students with MV-ASD access text. Consider the following questions: (a) For students who have the ability to read at or near the second- or third-grade level, should you provide a summary of the text, such as one prepared by the teacher or peer or one that is readily available (e.g., a Cliff Notes type)? (b) For nonreaders, should you or a peer read the text aloud or can you provide text-to-speech using a computer or tablet?

Figure 1. Task Analysis for Reading Literature and Nonfiction

1. **Anticipatory set.** Before reading the text, introduce an attention grabber related to the text (e.g., a basketball for the fiction text “Slam” or a magnifying glass used to concentrate sunshine to demonstrate the heat from the sun for a nonfiction text about solar energy).

Vocabulary introduction/review. Introduce key terms from the text. Pair visuals with terms to support comprehension. Provide practice labeling and identifying vocabulary. Remember to provide a variety of vocabulary terms, from everyday terms (e.g., *boy, girl, tree*), to academic terms (e.g., *plot, experiment, character*), to content-specific terms (e.g., *baroque, petri dish, facetious*; Beck, McKeown, & Kucan, 2008).
3. **Review print concepts.** After modeling, prompt students to
 - a. point to the title (or section header within a textbook),
 - b. point to the author and/or illustrator if applicable,
 - c. orient the book correctly, and
 - d. point to where you (or they, the students) should start reading.
4. **Ask a prediction question or have students ask a question about the text based on the title or heading.** Ask what the students think the text will be about, providing a response board with picture word options if needed.
5. **Point to text.** Ask students to point to the text as it is read (demonstrating left-to-right and top-to-bottom text directionality).
6. **Turn pages.** Have students turn the pages of the text.
7. **Identify vocabulary in text.** Have students point to vocabulary within the text. Have students identify definitions of vocabulary from three to four choices (the definition can be text only or text with picture).
8. **Ask comprehension questions.** Ask preplanned comprehension questions, using a system of least prompts as needed. Consider the following when developing questions: (1) Will the student need response options (e.g., response board, AAC device, picture word choice cards)? (2) Should I provide any background knowledge before reading the text and asking comprehension questions? (3) When is the best time to ask questions (i.e., before, during, or after reading)? (4) If students need questions asked soon after relevant sections, should the whole text be read prior to rereading and asking questions or will it not be too disruptive to ask questions throughout the first read?

Develop questions across Bloom’s taxonomy levels : literal, inferential (e.g., prediction, sequencing, problem identification), application (e.g., access background knowledge, connect to real life), analysis (e.g., categorize, compare), synthesis (e.g., main idea, cause and effect), evaluation (e.g., real/not real, fact/opinion; Browder, Spooner, & Meyer, 2011).
9. **Review vocabulary.** Briefly review and allow students to practice identifying key vocabulary as a closing activity (Browder, Trela, & Jimenez, 2007).

Modified System of Least Prompts

The following figures present the steps (with examples) for using modified systems of least prompts for literal and inferential questions. In both cases, the steps move from least to most intrusive prompts.

Figure 2. Modified System of Least Prompts for Literal Questions (Questions in the Text)

1. After reading an excerpt, ask a comprehension question and wait for the student to answer.

Basketball is my thing. I can hoop. Case closed. I'm six-four and I got the moves, the eye, and the heart. You can take my game to the bank and wait around for the interest. With me it's not like playing a game, it's like the only time I'm being for real. Bringing the ball down the court makes me feel like a bird that just learned to fly. I see my guys moving down in front of me and everything feels and looks right. Pat-terns come up and a small buzz comes into my head that starts to build up and I know it won't end until the ball swishes through the net. If somebody starts messing with my game it's like they're getting into my head. But if I've got the ball it's okay, because I can take care of the situation. That's the word and I know it the same way I know my tag, Slam. Yeah, that's it. Slam. But without the ball, without the floor-boards under my feet, without the mid-court line that takes me halfway home, you can get to me.

Ask: "How does Slam feel when he brings the ball down the court?"

2. Reread the paragraph with the answer (about three sentences) and repeat the question.

With me it's not like playing a game, it's like the only time I'm being for real. Bringing the ball down the court makes me feel like a bird that just learned to fly. I see my guys moving down in front of me and everything feels and looks right.

Ask: "How does Slam feel when he brings the ball down the court?"

3. Reread the sentence with the answer and repeat the question.

Bringing the ball down the court makes me feel like a bird that just learned to fly.

Ask: "How does Slam feel when he brings the ball down the court?"

4. Reread the key word or phrase with the answer, pointing to the answer on a response board if using one.

...makes me feel like a bird (*point to bird on response card if using*).

Ask: "How does Slam feel when he brings the ball down the court?"

Text adapted from Myers, 2016.

Figure 3. Modified System of Least Prompts for Inferential Questions (Questions in Your Head)

1. After reading an excerpt, ask a comprehension question and wait for student to answer.

Plants have female parts called carpels and male parts called stamens. Plant carpels make ovules. Plant stamens make pollen. When pollen sticks to ovules, seeds are made. This is called pollination. But plants need help getting the pollen to the ovules. That is why bees are important. Bees gather pollen to make honey. As bees fly from plant to plant some of the pollen they have gathered falls onto other plants. Bees help to pollinate the plants. Fruit and vegetable plants need bees to help them grow. Bees help pollinate many of the fruits and vegetables that we eat such as apples, peaches, cucumbers, and tomatoes..

Ask: "What could happen if all the honey bees die?"

2. Model thinking aloud, reread the paragraph that contains pertinent information (about three sentences), and then repeat the question.

Say: "This section tells me about what bees do. This can help me find out what would happen if all the honey bees die."

Then, point to the text as you read:

As bees fly from plant to plant some of the pollen they have gathered falls onto other plants. Bees help to pollinate the plants. Fruit and vegetable plants need bees to help them grow. Bees help pollinate many of the fruits and vegetables that we eat such as apples, peaches, cucumbers, and tomatoes.

Ask: "What could happen if all the honey bees die?"

3. Model thinking aloud, reread the sentence with pertinent information and repeat the question.

Say: "I think this sentence will help me answer what could happen if all the honey bees die."

Then, point to the sentence as you read:

Fruit and vegetable plants need bees to help them grow.

Ask: "What could happen if all the honey bees die?"

4. Reread key word or phrase with answer, pointing to the answer on response board if using one.

Say: "Hmmm. Bees help plants grow."

Then, write, draw, or point to the answer on a response card as you say:

"If all the bees died the plants wouldn't grow."

Graphic Organizer

Create or identify a graphic organizer that is clear and can be used for a variety of literacy situations. For example, a graphic organizer demonstrating "first, next, last" can be used for stories, science experiments, and history lessons. Consider whether your students will be able to generate answers independently or will need response options to complete the graphic organizer. If using response options, decide whether the student will be able to select options from an array of choices or will need to be provided with only one option to place in the correct location on the graphic organizer. Finally, consider color coding the graphic organizer with response options in matching colors (e.g., the "who" location on the graphic organizer has a red border and so do all the "who" options). Below are several examples of graphic organizers that have been effective for students with MV-ASD.

Figure 4. Story Comprehension Worksheet

Name the problem.	
List the main characters.	
How do the characters try to solve the problem?	
Is the problem solved? If so, how?	

Modified from Carnine, Silbert, Kame'enui, & Tarver (2009).

Figure 5. Sequence Chart

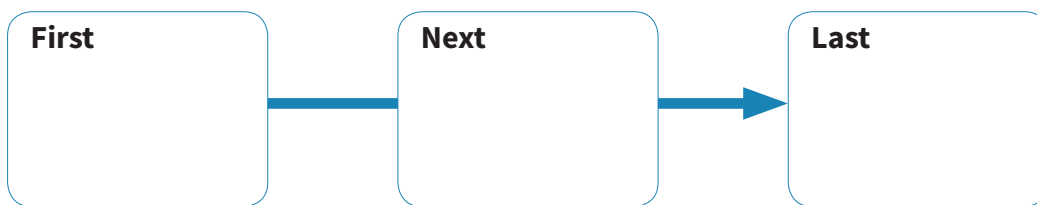


Figure 6. Self-Questioning Worksheet

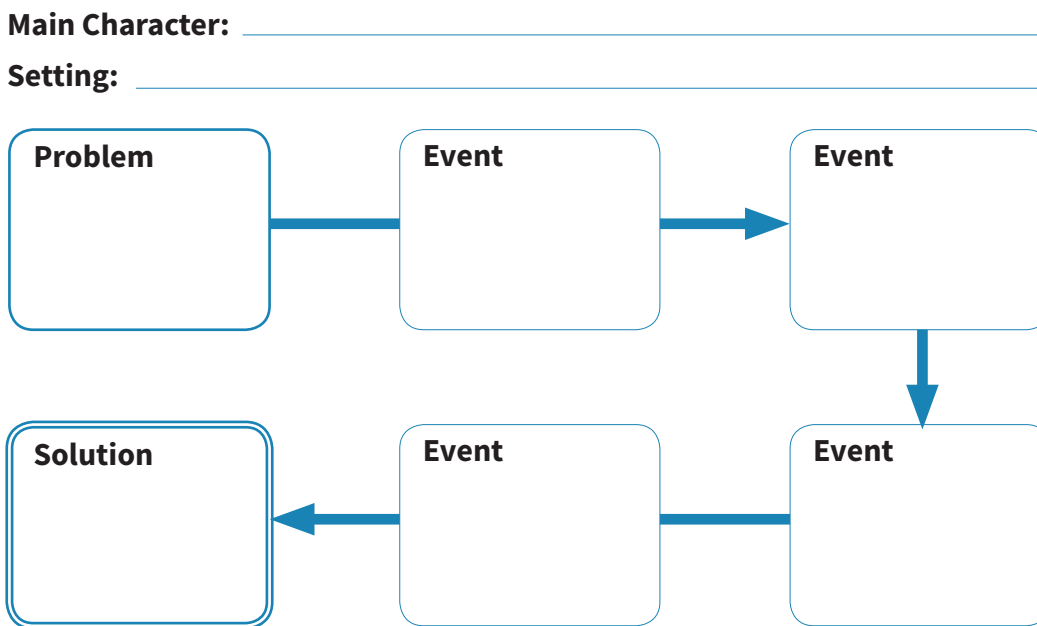
Think about the words in the heading (or title).
Heading: _____

Pick one question word and ask a question about the heading.
 Who What When Where Why How

Record your question.
Question: _____

Read the text and write your answer.
Answer: _____

Figure 7. Story Map



Implications for Practice

- Select grade-appropriate texts for students with MV-ASD.
- Determine whether they can access the text as it is read aloud or whether a modified version is needed (use resources similar to Cliff Notes to obtain modified text).
- Identify both inferential and literal questions to ask about the text.
- Determine whether students will need response options or will be able to write or say the answers. Prepare materials as needed.
- Identify key vocabulary terms that range from common to more specific words and prepare visual examples of the terms if needed. (It is a good homework activity to have peers identify or create visual depictions of vocabulary. Use these to create supports for your students with ASD.)
- Follow a task analysis to systematically engage students with MV-ASD in the assigned text. Consider identifying peers that can guide students with MV-ASD through the task analysis.
- Use the modified system of least prompts to support students in forming independent responses to comprehension questions.
- Provide graphic organizers and response options for students with MV-ASD to organize the information they learn from the text.

Conclusion

This brief has provided three strategies for increasing access to and comprehension of grade-appropriate literature and academic content. Consistent implementation of these strategies will provide a predictable routine for students with MV-ASD that allows them to focus on the content of the text rather than on learning a new routine or activity. Variation in learning comes via access to a wide variety of literature and nonfiction texts.

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