



Reading Comprehension Difficulties and Spina Bifida

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Preschool

Many of the skills necessary for reading comprehension begin to develop during the preschool years and earlier. Early skills that support reading comprehension involve many of the same oral language and listening comprehension skills that young children acquire through interactions with parents and peers at home, during play, in preschool settings, and in the community. During preschool, skills that contribute to the development of language skills lay the groundwork for reading comprehension once the child acquires the ability to read or decode words. Early skills that create a foundation for later reading comprehension include:

- Learning the meanings of new words
- Learning to ask/answer questions during conversations, when listening to stories, and/or during shared book reading times
- Learning to predict or anticipate what might happen next in a social situation or in a story
- Learning to summarize or retell a story or an event to others

There are many opportunities for preschoolers to learn these skills, both at home and in school programs. For instance:

- Ask “why” type questions throughout the day to help teach cause and effect relationships (e.g., Why do you think we need to feed the dog every day? Why do we have houses? Why do we have policemen?)
- Give the child the chance to draw conclusions from different pieces of information (e.g., It’s snowing outside and a fire is roaring in the fireplace...what time of the year do you think it is?).
- Ask the child to look at pictures and describe what he or she sees. This provides a good opportunity to draw conclusions based upon details (e.g., If the child describes a picture of children playing, ask if the children are getting along or not? How can you tell? What activity are they doing?).
- Provide the pre-school child with simple chores and self-care responsibilities. Help the child learn to think through “what to do if?” situations that may occur during chores or self-care responsibilities (e.g., What should you do if you run out of pet food? What should you do when it rains? What should you do if you have a cold?)

Like all children, preschoolers with Spina Bifida benefit greatly from being read to by their parents and teachers. When reading to a preschool child, it is important to talk about the stories and ask questions about it. Stopping to discuss the story or ask questions is a good way to show the child how to think about what he or she is hearing. It also provides a model for how to be an “active” reader. For instance, pause occasionally while reading and have the child “fill in” missing details or make predictions about what will happen next. However, it is also important to not disrupt the flow of the story too often (which can



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interfere with comprehension and interest). Rereading short parts of the text to maintain flow and coherence can be helpful.

Kindergarten/Elementary School

Children with Spina Bifida are often successful in developing single-word reading skills during early elementary school. However, children with Spina Bifida often have more difficulty understanding what they are reading (i.e., reading comprehension). Because of this, early screening of listening comprehension and reading comprehension are recommended for children with Spina Bifida, particularly around second or third grade.

If mild reading comprehension problems are found, accommodations and interventions for reading comprehension problems should be provided by the teacher in the classroom and used by the parents at home. Teachers should help parents learn reading comprehension approaches they can use with their children.

While some reading comprehension problems can be addressed in the classroom setting, many young people with Spina Bifida have difficulties that require special intervention strategies. Special intervention strategies used by the school should be “evidence-based” approaches. Evidence based approaches are techniques that have been shown to work with children with similar learning disabilities.

An important goal of the interventions should be to make the youth with Spina Bifida an “active reader,” rather than letting the youth simply read “on cruise control.” It is important to teach the youth to “slow down” while reading, and learn how to “think about reading.” One useful way of doing this is to teach and use clear comprehension strategies that can be used before, during, and after reading.

Before Reading:

- Before starting a book, help the child orient to it by taking a “bookwalk.” A bookwalk includes previewing the book by talking about things like its cover, the title, chapter names, the length of the book, pictures, picture captions, the level of difficulty of the words used, etc. Parents and teachers should model this type of bookwalk process for the child so that he or she can learn to do this independently.
- If unfamiliar words are found in the bookwalk, it will be important for the child to look the words up in an electronic dictionary to help build their reading vocabulary. Efforts should also be focus on helping children learn to identify the meaning of unfamiliar words using the surrounding details of the story.



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- After previewing the book, help the child identify a purpose/goal for reading before starting (e.g., “Why am I reading this text?” Is it for entertainment? To learn information? To hear a persuasive argument? To answer comprehension questions?)
- If the reading assignment requires the child to answer reading comprehension questions, teach the child to read the comprehension questions before reading the text/story. It is also helpful to assist the child in identifying what type of information they will need to answer each comprehension question (e.g., Should he or she be looking for a specific piece of information such as a date or name, or does the question require him or her to draw some type of conclusion from the information in the text?).
- Help the child learn to make predictions about books and reading passages before reading them. Predictions can be based upon the child’s own experiences, things he or she has read before, and information he or she may have heard through TV, computers, etc. For instance, when previewing a book about Babe Ruth, the child may predict that the book will be about baseball (“I’ve seen a picture of Babe Ruth and he was wearing a baseball uniform”), New York City (“Babe Ruth plays for a team from New York”), or the early 20th century (“The picture on the cover of the book is black and white and the clothes look old-fashioned”). The child should also review any prior knowledge they have about the subject (“What do you already know about Babe Ruth?”).
- Predictions should also include what the child thinks he or she will learn from the book or reading passages (“I think I’ll learn about Babe Ruth’s baseball career.”).

During Reading:

- The child should be taught to highlight important details as they read. Highlighting also facilitates re-reading, which can increase comprehension.
- Model/teach “thinking out loud strategies” when you read to the child, or when the child is reading aloud to you. Asking and answering questions while reading is an important way of monitoring the child’s comprehension of the reading passage and avoiding the practice of “reading on cruise control.” When reading with a child, watch to make sure they don’t lose focus. Don’t be afraid to stop and go back, re-read to improve understanding, and discuss what may be confusing.
- Much of the “thinking out loud” approach can include asking questions about how accurate the child was regarding the predictions he or she made before reading the story (e.g., “Is this what you expected to happen when you started reading this story?” “We thought this book about Babe Ruth would be about New York and playing baseball there, but the first several chapters have been about Baltimore”). These types of questions can be used to clarify understanding of the reading material, raise new questions about the story (“I wonder what happened that led to Babe



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Ruth playing in New York?), and can lead to making new predictions about the story (“Maybe Babe Ruth didn’t like playing in other cities.”).

- As the child asks questions and assesses the accuracy of his or her predictions about the story, the child begins to make connections to it and learns important facts and information. To help organize information the child is learning during reading, he or she should be taught to transfer it into learning aids such as graphic organizers (e.g., outlines and “story webs”).

After Reading:

- After reading the story/text, help the child assess how accurate he or she was with regards to what they predicted would happen in the story. Also, help the child identify any unresolved questions. Many questions about a reading passage have clear answers (Who? What? Where?) that can usually be found directly in the text (e.g., “Babe Ruth was born in Baltimore”). Answers to other questions (Why? How? What if?) are sometimes only indirectly available (e.g., “Did Babe Ruth like growing up in Maryland?”), and must be answered using available clues. Answering these types of questions helps the child learn to summarize the reading passage and make applications/connections to it.
- Children should be encouraged to go back and review reading passages after they’ve read them. This is an opportunity to clarify their understanding of the story/text and identify the answers to comprehension questions. Because children with Spina Bifida can be slow but accurate readers, rereading may help their comprehension because their reading will be faster the second time, allowing them to focus more of their mental effort on the meaning of what they are reading.

Additional Ideas

There are now many available intervention curriculums which target reading comprehension, and you can ask your child’s teacher or school about them. These types of learning materials insert comprehension questions into the story, which cues the child to answer comprehension questions as he or she reads.

The goal of reading comprehension intervention with children with Spina Bifida should be to gradually shift the responsibility for “active reading” from the teacher/parent to the student (e.g., the teacher takes an “I do, we do, you do” approach).

As children sometimes grow weary of re-reading stories or texts, it may be helpful to get a “text-to-speech” program which can “read” the information to the child several additional times after he or she has read it on their own.



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Curriculum and internet resources:

- Mdk12.org-VSC
- www.readwritethink.org
- www.ira.org (International Reading Association)
- NCTE (National Council of Teachers of English)
- www.thinkfinity.org
- www.fccr.org
- www.lida.org
- www.whatworks.ed.gov

Teacher resources:

- Activation of background knowledge during reading (Vaughn & Klingner 2004)
- Collaborative Strategic Reading (Vaughn, Klingner, & Bryant, 2001)
- Asking the student questions during reading & the Learning Strategies Curriculum (Schumaker, Deshler & McKnight 2002)
- Explicit teaching of vocabulary to promote understanding during reading (Hughes et al 2002, Swanson 1999, Clark & Uhry 1995; Swanson 1999, NRP 2000)
- Use of graphic organizers (e.g., semantic maps, word maps) (Kim, Vaughn, Wanzek & Wei 2004)
- Peer Assisted Learning Strategies (Saenz, Fuchs, & Fuchs, 2005)
- Theme Identification Program that teaches text structure (Williams, 2002; 2003)

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This information does not constitute medical advice. As specific cases may vary from the general information presented here, the Spina Bifida Association advises readers to consult a qualified medical or other professional on an individual basis.