Douglas Fisher Nancy Frey

here is no reading gene that is passed from one generation to the next. Each and every brain must be taught to read anew. Unlike hair or eye color, which are coded in DNA, reading is a complex, rule-based system that must be imposed on biological structures that were designed or evolved for other reasons (Wolf, 2007). Although most children are born with the right structures, these structures don't inherently know how to read. They are hardwired to speak and listen; in other words, we were born to talk (Hulit, Howard, & Fahey, 2010). Reading and writing are optional accessories that are bolted onto a speaking and listening brain.

Listening and Reading Comprehension

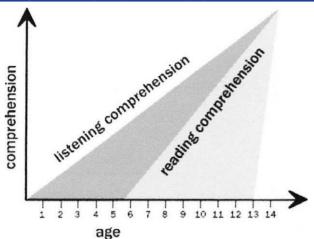
Decades of research, not to mention personal experiences, confirm that listening comprehension outpaces reading comprehension from early childhood through at least middle school. Based on their review of research, Stricht and James (1984) analyzed the gap between listening and reading comprehension by

age of learner (see Figure 1). What is obvious from this figure is the fact that access to complex ideas, for many years of the learner's life, requires oral rather than written input. Simply stated, children can listen to and talk about much more complex ideas than they can read (and probably write) about. In addition to the research, anyone who has ever read a bedtime story to a preschooler knows that listening comprehension is more sophisticated than reading comprehension. The proof comes from nights when you're tired and you skip a page while reading a bedtime story. That 3-, 4-, or 5-year-old's eyes pop open. You are accused of skipping some of the story, and the punishment is that now you must start over. Yes, in fact, the child is listening, understanding, and comparing the text with his or her expectations. What is less obvious from personal experience is the persistence

Douglas Fisher is a professor at San Diego State University, California, USA; e-mail dfisher@mail.sdsu.edu.

Nancy Frey is a professor at San Diego State University; e-mail nfrey@mail.sdsu.edu.





of this gap. According to Stricht and James (1984), the gap extends well into middle school. This gap has implications for high-quality instruction across the learner's elementary and middle school experience, and oral language development should not be considered solely the role and responsibility of early childhood educators.

Speaking and Listening and Text Complexity

In this time of great interest of increasing text complexity, the data represented in Figure 1 raised several question for us. Is it possible that one way to ensure that students read at increasingly sophisticated levels is to focus on increasing students' listening comprehension? In other words, if we pushed listening comprehension higher than identified in the previous research, would reading comprehension follow? If we did so, would it take longer to close the gap, or would the gap size remain, although at a higher level? If we want to ensure that students read increasingly complex informational texts, it seems logical that students should be

talking during their content area learning (e.g., Nystrand & Gamoran, 1991). Although there is significant attention to the Common Core reading and writing standards, we believe that teachers should also attend to the increased demands of the Speaking and Listening domain, especially Anchor Standard 1, which states that students should

Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively. (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010, p. 22)

There is a lot to focus on in this standard. First, students should come prepared for the discussion and not simply be expected to work collaboratively with no preparation. Second, students are expected to interact effectively with a wide range of people, not just their friends and others they choose to interact with. Third, students are expected to build on each other's ideas, maintaining the conversation and continually building on the ideas of others in the discussion. And finally, they need to be able to do all of this while

they express their ideas clearly and persuasively.

Anchor Standard 1 in the Speaking and Listening domain of the Common Core State Standards (CCSS) represents increased expectations for students, especially students in the primary grades. Figure 2 contains grade-level expectations for this standard. We have bolded words and phrases that did not appear in the previous grade to highlight the instructional components of each grade. For example, students in third grade are expected to "stay on topic," which is not an expectation in second grade. Analyzing the differences by grade level, known as vertical alignment, is critical if teachers are going to develop teaching points aligned with the CCSS. In addition, teachers need to ensure that students have opportunities to engage in speaking and listening regularly, which may require changes to the instructional environment.

Instructional Ideas for Speaking and Listening

There are a number of ideas for ensuring that students across the grade span and in different content areas are able to practice their speaking and listening skills. Most importantly, teachers need to dedicate time every day for students to engage in collaborative conversations in which they use academic language with their peers. In fact, we recommend that about 50% of the instructional minutes devoted to content area learning be used for collaborative conversations with peers. This is based on the success that the students in Chula Vista, California, had when their teachers increased the amount of student-to-student interaction using academic language (Frey, Fisher, & Nelson, 2013). In addition

Figure 2 CCR Speaking & Listening Anchor Standard 1

Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, SL.8.1 texts, and issues, building on others' ideas and expressing their own clearly.
- Grade 8 a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. Students:
 - b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed
 - c. Pose guestions that connect the ideas of several speakers and respond to others' guestions and comments with relevant evidence, observations, and ideas
 - d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
- SL.7.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.
- Grade 7 a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to **probe** and reflect on ideas under discussion. Students:
 - b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.
 - d. Acknowledge new information expressed by others and, when warranted, modify their own views.
- SL.6.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.
- Grade 6 a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. Students:
 - b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.
 - c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.
 - d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
- SL.5.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
- Grade 5 a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. Students:
 - b. Follow agreed-upon rules for discussions and carry out assigned roles.
 - c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
 - d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
- SL.4.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
- Grade 4 a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about
 - the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles.

 - c. Pose and respond to specific questions to clarify or follow upon information, and make comments that contribute to the discussion and link to the remarks of others.
 - d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
- SL.3.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.
- known about the topic to explore ideas under discussion. Students: b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about
 - the topics and texts under discussion).

a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information

- c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.
- d. Explain their own ideas and understanding in light of the discussion.

Students:

Grade 3

Figure 2 (CCR Speaking & Listening Anchor Standard 1 (continued)		
SL.2.1	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and large group		
Grade 2 Students:	 a. Follow agreed-upon rules for discussion (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by linking their comments to the remarks of others. c. Ask for clarification and further explanation as needed about the topics and texts under discussion. 		
SL.1.1	Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and large groups		
Grade 1 Students:	 a. Follow agreed-upon rules for discussion (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. c. Ask questions to clear up any confusion about the topics and texts under discussion. 		
SL.K.1	Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and large groups.		
Kindergarten Students:	a. Follow agreed-upon rules for discussion (e.g., listening to others and taking turns speaking about the topics and texts under discussion).b. Continue a conversation through multiple exchanges.		

to providing students an opportunity to expand their understanding of the content as they engage in peermediated instruction (e.g., Sperry, Neitzel, & Engelhardt-Wells, 2010), it provides teachers an excellent opportunity to work with small groups of students who need additional support to achieve their goals.

Some evidence-based speaking and listening instructional routines have been useful for students during content area instruction in the past:

■ Readers' Theatre in which students practice reading and rereading a script, either one that was prepared for them or one they developed collaboratively, based on an informational text they have studied (e.g., Young & Rasinski, 2009). Students are expected to present that text to the rest of the class while others listen. To ensure that students are listening, teachers often ask them to take notes, write down questions, or retell the information presented to a partner. For example, during their investigation of Earth and the solar system, the fifth-grade students in Ms.

Harris's class collaboratively read *Moon Power* (Evans, 2011) and then created a script to share with the rest of the class. The other students in the class selected their own texts, such as excerpts from *All About Space* (Becklake, 1998), and developed scripts to share.

■ Presentations in which students research a topic and then share their findings with their peers, either in a small group or a large group (Fisher, McDonald, & Frey, 2013). Often, students are asked to provide their peers with feedback about their presentation skills. A sample presentation checklist is included in Figure 3. For example, the students in Mr. Ramirez's sixth-grade class had examined

the impact of trash, with a focus on space junk and the garbage patch in the Pacific Ocean. As part of their investigation, they read *Plastic Ahoy!* (Newman, 2014), and each group was asked to present on one chapter of the book. One group focused on ocean currents and the creation of the Pacific garbage patch, using a Prezi with Google Earth images and narration.

■ Listening stations in which students listen to digital recordings of their teacher reading a complex informational text aloud, then discuss the questions the teacher poses at the end of the recording (Skouge, Rao, & Boisvert, 2007). These readings including instructions for students (e.g., "Put your finger on the title.

"There are a number of ideas for ensuring that students across the grade span and in different content areas are able to practice their speaking and listening skills."

Figure 3 Oral Presentation Checklist				
Name:	Time			
Criteria	Assessment	Comments		
States name	3 2 1 0			
States purpose for presentation	3 2 1 0			
Makes eye contact with audience	3 2 1 0			
Uses gestures to support talk	3 2 1 0			
Voice can be heard by participants	3 2 1 0			
Pacing is appropriate for topic	3 2 1 0			
Uses grammatically correct language	3 2 1 0			
Uses appropriate vocabulary for topic	3 2 1 0			
Adheres to time limit	3 2 1 0			

2.	avenade	standards
.5	EXCEPTIS	Standards

Total Points:

- 2: meets standards
- 1: below standards
- 0: not evi denced

Check your partner. Does he or she have the title identified correctly?") as well as explanations of difficult words and concepts (e.g., "The word *stabilizing* means to hold still. So, the author is saying that the Slinky was invented to hold ships more still so that they wouldn't rock so much").

■ *Reciprocal teaching* in which students read chunks of a given text and then take turns with various comprehension strategies such as predicting, questioning, clarifying, and summarizing (Palincsar & Brown, 1986). To ensure that students actually listen to one another, teachers create note-taking tools that require students to maintain a written record of the conversation. For example, the students in Jessica Farlow's eighth-grade social studies class were reading the section on Abraham Lincoln from 50 American Heroes Every Kid Should

Meet (Denenberg & Roscoe, 2001). As they had been taught, they stopped at each heading to engage in their conversation, taking notes as one member summarized, then another clarified, another questioned, and then the last person predicted what might come next in the text.

Technology offers teachers new ways to engage students in speaking and listening tasks. Even very young children are learning to follow oral directions while using tablets. Some enhancing speaking and listening tasks can be used in elementary content area instruction:

■ Listening Gallery Walk in which students create a visual image, record themselves talking about the image, and then code it with a symbol that will allow others to access the digital file. One way to do this is with QR codes that can be printed and included in the

image itself. Alternatively, students can use the Aurasma app. This is an augmented-reality application that allows users to create and post video to enhance a viewing experience. For example, some museums use Aurasma for their patrons to view additional content after pointing a smartphone or tablet at a display. In terms of classroom application, students can create their own videos and pair them with displayed work. For example, during their investigation of artists, students in Ms. Bledsoe's third-grade class narrated their original artwork that had been inspired by a specific artist. When a tablet enabled with Aurasma was pointed at one of the art pieces, the video that accompanied the art played. When students' parents visited for open house, they were able to see their children talking about their work and to learn more about the other students in the class.

Photo narratives in which students collect images and then record a narrative to accompany the images. For example, the first graders in Anthony Munoz's classroom planted seeds. Each day, they took a picture of the container in which their seed was planted. Mr. Munoz read aloud the

"Technology offers teachers new ways to engage students in speaking and listening tasks."

text From Seed to Plant (Gibbons. 1993) several times as the plants grew. Mr. Munoz helped his students create a time lapse video using Quicktime, and the students recorded their narrative about the growth of the plant that accompanied the video.

■ *Digital storytelling* to create original narrative and informational pieces. The Storybird app provides access to thousands of illustrations and photographs to illustrate original pieces of writing. These are best when completed collaboratively in order to create lots of opportunities for students to engage in meaningful discussion with one another. The Voicethread website offers two-way communication between writers and readers. Like Storybird, students create a digital story using the Voicethread tools and their own illustrations. In addition, they dictate the text for each page. Subsequent listeners can either listen to the writer's own voice or read the dictated script. Importantly, readers can then pose questions and offer connections that are in turn viewed by other readers. As part of their social studies curriculum, Davinia Thompson's secondgrade students used Voicethread to develop a class digital book on people who make a difference in

their community. Ms. Thompson compiled each student's contributions and uploaded them to the Voicethread website. Later in the centers, students viewed the class book and recorded their comments and questions. Ms. Thompson then had the entire class view the completed digital story, with their questions included, so the class could continue the conversation about the topic.

Talking in Class

Regardless of the specific approach that a teacher takes, students simply must talk in class. We have to change the climate, expectations, and accountability for student-to-student interaction in classrooms everywhere. A day should not go by in which students silently try to learn content. Instead, there should be a hum of learning, with many voices engaged in discussions about the topics under investigation. Only then will we fully realize the literacy achievements of our students orally, digitally, and in print.

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