GLOBAL EDITION

Introduction to Communication Disorders

A Lifespan Evidence-Based Perspective

FIFTH EDITION

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ALWAYS LEARNING

PEARSON

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A LIFESPAN EVIDENCE-BASED PERSPECTIVE

GLOBAL EDITION

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2009). Intervention might focus on increasing awareness of the morphological structure of words and the orthographic rules that apply when suffixes are added to the base word, such as the *y* in *happy* and *crazy* changing to an *i* before the *-ly* marker in *happily* and *crazily*.

Word Recognition

The goals of intervention for word recognition are:

- To teach decoding skills
- To develop a vocabulary of written words
- To improve reading comprehension (Torgesen et al., 2005)

Success in the last two depends on achievement of the first. Teaching decoding skills can result in gains, followed by increases in reading accuracy, fluency, and comprehension (Torgesen, 2005). Support for learning can be provided through encouragement and positive feedback and by breaking tasks into smaller steps or by giving a child as much direction as necessary to complete the task successfully.

Context can be used to help children predict words in text. Intervention might begin with obvious words, such as *I took my umbrella because it looked like* _____. Training can then move to more ambiguous choices and the use of other strategies that include morphological and orthographic cues, such as *Let's have* _____ *for lunch* followed by *Let's have p*_____ *for lunch* or *Let's have p*_____s *for lunch.*

Text Comprehension

Comprehension relies on many different aspects of processing. As mentioned, when we read, our knowledge and experience blend with the information on the page to form a mental representation of the meaning. An active reader makes inferences from the text and past knowledge and experience that bridge these gaps.

Children who lack internalized story frameworks necessary for interpreting narratives might begin intervention with telling stories (Naremore, 2001). Intervention can progress to oral and then written narrative interpretation (Boudreau & Larson, 2004). Storybook reading can be divided into before, during, and after reading activities to aid comprehension. Postreading might include creating story organizers, retelling, and creating variations of the narrative. Narratives can also be divided into story parts and then recombined.

Similarly, comprehension by children who read with difficulty can be improved by also focusing on before, during, and after reading strategies (Vaughn & Klingner, 2004). Through prereading techniques such as establishing the content and setting the scene or context, establishing relationships, and discussing unfamiliar vocabulary and concepts, an SLP or a teacher can assist students in constructing meaning from what they read. Activation of prior knowledge can improve comprehension, especially for children with LD.

Comprehension may also be enhanced by teaching children the more explicit and precise language style found in written communication (Westby, 2005). This style can be taught through tasks in which children must follow very explicit oral instructions to be successful or tasks in which contextual cues, such as objects or pictures, are present. Literate vocabularies can be enhanced through prereading

activities that focus on the words to be encountered and through use of visual or verbal memory aids. Complex grammar may be taught through books with familiar stories or books in which the grammar becomes increasingly complex.

Adult strategies should differ according to when they are used in the reading process. For example, prior to reading, semantic strategies, such as giving definitions or synonyms for key words, reduce reading miscues or errors. Graphophonemic strategies are more effective during reading (Kouri et al., 2006). Graphophonemic strategies include encouraging a child to "sound out" a word, calling a child's attention to phonetic regularities, and asking a child to identify initial or final sounds or consonant blends.

During reading, SLPs can facilitate comprehension through instruction, questions, visual and verbal cues, explanations, and comments (Crowe, 2003). Using a conversational style, the adult provides cues and feedback as oral group reading occurs. It's important that questions reflect the level of comprehension targeted for each child. This semantic strategy should be accompanied by direct vocabulary instruction (Ehren, 2006).

Ideally, students will internalize comprehension strategies and use them as they read actively. Active strategies might include the following:

- Using context to analyze word meaning
- Activating prior knowledge
- Rereading difficult passages
- Self-questioning to help frame key ideas
- Analyzing text structures to determine type of reading
- Visualizing content
- Paraphrasing in one's own words
- Summarizing (Ehren, 2005, 2006; Pressley & Hilden, 2004)

These strategies can be used along with the monitoring in which a reader actively decides whether a reading passage makes sense and what to do about it if it does not. Good readers recognize when they have not comprehended a written passage, and they therefore reread it.

When we analyze eye movements of typical readers, we find that their eyes are bounding ahead and back, trying to check the accuracy of words within the surrounding meaning. Children with reading impairments can be taught to use this information to determine word meaning (Owens & Kim, 2007).

At another level, comprehension includes a social dialogue with the authors and characters. Comprehension training should also include discussion of the author's goals and the feelings and motivations of characters (Donahue & Foster, 2004). Knowledge of the text can be used to predict a character's behavior within a narrative.

Executive Function

Specific areas of executive function that might be targeted in intervention include working memory, self-directed speech (*How can I figure out the meaning of this word?*), and problem solving (Westby, 2004). Just teaching strategies is not enough. An SLP and a classroom teacher must help each child achieve independent and appropriate use of these strategies.

Thought Question

Of importance for more advanced readers is *distancing,* or moving away from dependence on the text and toward independent thinking about the text. This can be accomplished by questions that move from answers explicitly stated in the text (*What did she do next?*) to ones in which the question is generated by something in the text but the answer is generated from the student's knowledge (*Could she have solved the problem differently?*).

Hopefully, you're motivated to learn more. Several resources are available online. The Mayo Clinic website (www.mayoclinic.com) covers signs, symptoms, causes, and treatment of reading disability. Just type "dyslexia" in the search box to the right. Then click on "Dyslexia: Symptoms" or "Treatments."

Several commercial sites are available. Please be aware that with these commercial sites, materials that are mentioned do not necessarily represent what we authors would recommend. Just browse the possibilities. The Bright Solutions for Dyslexia website (www.dys-add.com) has several definitions and offers useful teaching tips.

The Scholastic Publications website (www.scholastic.com/home/) offers resources and links. Click on "Teachers" and then type "dyslexia" in the "Search the Teachers Site" box. Scroll down to "Dyslexia: What Teachers Need to Know" and read this interesting article on ideas and teaching methods.

WRITING

Like all other modes of communication, writing is a social act. Just like a speaker, a writer must consider the audience, but because the audience is not present when the writing occurs, writing demands more cognitive resources for planning and execution than does speaking.

In short, writing is using knowledge and new ideas combined with language knowledge to create text. It's a complex process that includes generating ideas, organizing, and planning; acting on the plan, revising, and monitoring based on self-feedback; and it motor, cognitive, linguistic, affective, and executive processes.

Writing is more abstract and **decontextualized** than conversation and requires internal knowledge of different writing forms, such as narratives and expository writing. *Decontextualized* means "outside of a conversational context." When you write, the entire context is contained in the writing. You create the context with your language rather than having the context created by your conversational partners.

Several aspects of the writing process are of concern for an SLP. These include (Berninger, 2000):

- Spelling
- Executive function
- Text construction, or going from ideas to writing
- Memory

As mentioned previously, executive function is self-regulation and includes attending, goal setting, planning, and the like. Memory provides ideas for content and language symbols and rules to guide the formation of that content and is used for word recognition and storage of ideas as they are worked and reworked.

As you can see, writing is a very complicated process. Let's look more closely at spelling and then writing development and impairment, followed by assessment and intervention.

Spelling

Spelling of most words is self-taught using a trial-and-error approach. It is estimated that only 4,000 words are explicitly taught in elementary school. Rather, classroom teachers focus on strategies and regularities that children can use to determine word spelling.

Good spellers use a variety of strategies and actively search words for patterns and consistency. More specifically, mature spellers, like you, rely on memory; on spelling and reading experience; phonological, semantic, and morphological knowledge; orthographic or letter knowledge and mental grapheme representations; and analogy (Apel & Masterson, 2001). Semantic knowledge is concerned with the interrelationship of spelling and meaning, whereas morphological knowledge is knowing the internal structure of words, affixes (*un-, dis-, -ly, -ment*), and the derivation of words (*happy, unhappily*). Mental grapheme representations are best exhibited when you ask yourself "Does that word look right?" Your representations are formed through repeated exposure to words in print. Finally, through analogy, a speller tries to spell an unfamiliar word using prior knowledge of words that sound the same.

Your brain doesn't store words letter-by-letter; rather, it stores them by more useful units. For example, *stand* is probably stored as *st-and,* which enables you to spell *land, band, hand, bland, strand,* and so on.

Spelling competes with other aspects of writing for our limited cognitive energy. Excessive energy expended at this level comes at the cost to higher language functions. As a result, poor spellers generally produce poorer, shorter texts.

Writing Development through the Lifespan

Writing and speaking development are interdependent and parallel, and many aspects of language overlap both modes. In turn, writing development includes development of several previously mentioned interdependent processes. For example, typically developing children and those with Down syndrome (DS) matched for reading level both exhibit oral narratives that are longer and more complex than written narratives. Among the children with DS, vocabulary comprehension is the best predictor of narrative skills (Kay-Raining Bird et al., 2008).

Emerging Literacy

Initially, children treat writing and speaking as two separate systems. Three-year-olds, for example, will "write" in their own way—usually scribbling—but don't yet realize that writing represents sounds. The story may be contained in an accompanying drawings. By age 4, some real letters of the parent language may be included.

As with reading, in early writing, children expend a great deal of cognitive energy on the mechanics, such as sound–letter associations and letter formation. Gradually, spelling, like reading, becomes more accurate and fluent or automatic.

For a few years, the spoken and written systems converge, and children write in the same manner as they speak, although speech is more complex. Around age 9 or 10, talking and speaking become differentiated as children become increasingly literate. Writing slowly overtakes speech as written sentences become longer

and more complex than speaking. Children display increasing awareness of the audience through their use of syntax, vocabulary, textual themes, and attitude. Some language forms are used almost exclusively in either speech or writing, such as using *and* to begin many sentences in speech but only rarely in writing.

Mature Literacy

In a phase not achieved by all writers, speaking and writing become consciously separate. The syntax and semantics are consciously recognized as somewhat different, and the writer has greater flexibility of style. You may or may not have achieved this phase yet. If you find yourself using an enlarged vocabulary when writing or pondering how sentences flow from one to the next, then you are probably there. As with reading, practice results in improvement that should continue throughout the lifespan. In general, the writing of adults as compared to adolescents contains longer, more complex sentences and uses more abstract nouns, such as *longevity* and *kindness,* and more metalinguistic and metacognitive words, such as *reflect* and *disagree* (Nippold, Ward-Lonergan, & Fanning, 2005).

Writing includes handwriting, word processing, or texting; spelling; executive function; text construction or going from ideas to written texts; and memory. Let's discuss, in that order, the ones of particular interest to speech-language pathologists.

Spelling

Spelling development is a long, slow process. As mentioned, initial *preliterate* attempts at spelling consist mostly of scribbling and drawing with an occasional letter thrown in. Later, children use some phoneme–grapheme knowledge along with letter names. For example, *bee* might be spelled as *B*. Gradually, they become aware of conventional spelling and are able to analyze a word into sounds and letters, although vowels will be difficult for some time. As mentioned earlier, mature spellers are able to call on multiple learning strategies and different types of knowledge.

As knowledge of the alphabetic system emerges, a child slowly connects letters and sounds and devises a system called "invented spelling" in which the names of letters may be used in spelling, as in *SKP* for *escape* or *LFT* for *elephant*. One letter may represent a sound grouping, as in ***s****et* for ***str****eet*. Because children lack full knowledge of the phoneme–grapheme system, they have difficulty separating words into phonemes.

As spelling becomes more sophisticated, children learn about spacing, sequencing, various ways to represent phonemes, and the morpheme–grapheme relationship (Henderson, 1990). The parallel development of reading aids this process.

Children who possess full knowledge of the alphabetic system of letters and sounds can segment words into phonemes and know the conventional phoneme–grapheme correspondences. As children begin to recognize more regularities and consolidate the alphabetic system, they becomes more efficient spellers (Ehri, 2000). Increased memory capacity for these regularities is at the heart of spelling ability.

Many vowel representations, phonological variations (such as *later–latter*), and morphophonemic variations (such as *sign–signal*) will take several years to acquire. Gradually, children learn about consonant doubling (la*dd*er), stressed

and unstressed syllables (***report–re*port**), and root words and derivations (*add–addition*).

Most spellers shift from a purely phonological strategy to a mixed one between second grade and fifth grade. As words and strategies are stored in long-term memory and access becomes fluent, the load on cognitive capacity is lessened and can be focused on other writing tasks.

Adults spell in several ways: letter-by-letter, by syllable, and by sub-syllable unit, such as *ck,* used for *back, stick,* and *rock* but never in *ckar* (car). The method used seems to vary with the task. Next time you're typing words, notice whether your spelling is conscious and letter-by-letter.

Executive Function

It is not until early adulthood—about where you probably are right now—that writers develop the cognitive processes and executive functions needed for mature writing (Berninger, 2000; Ylvisaker & DeBonis, 2000). It takes this long because of the protracted period of anatomical and physiological development of your brain's frontal lobe, where executive function is housed.

Until adolescence, young writers need adult guidance in planning and revising their writing. By junior high school, teens are capable of revising all aspects of writing. Improved long-term memory results in improved overall compositional quality.

Text Generation

Once children begin to produce true spelling, they begin to generate text. In first grade, text may consist of only a single sentence, as in *My dog is old.* Early compositions often lack cohesion and use structures repeatedly, as in the following:

I like school. I like gym. I like recess. I like art.

In contrast, mature writers use sentence variety for dramatic effect. The facts and events characteristic of early writing evolve into use of judgments and opinions, parenthetical expressions, qualifications, contrasts, and generalizations (Berninger, 2000).

Initially, compositions lack coherence and organization. Later, ideas may relate to a central idea or consist of a list of sequential events.

Written narratives or stories emerge first, followed by expository texts. Expository writing, the writing of the classroom, is of several genres: procedural, as in explaining how to do something; descriptive; opinion; cause-and-effect; and compare-and-contrast.

By adolescence, expository writing has greatly increased in overall length, mean length of utterance, multi-clause production, and use of literate words that transition between thoughts, abstract nouns, and metalinguistic/metacognitive verbs (Nippold, Hesketh, Duthie, & Mansfield, 2005). Literate words include *however, finally,* and *personally*; abstract nouns are words such as *kindness, loyalty,* and *peace*; and metalinguistic and metacognitive verbs include *think, reflect,* and *persuade.*

Click here to check your understanding of the concepts in this section.

Writing Problems through the Lifespan

Children with LI often have writing deficits. Unfortunately, their writing difficulties may remain through the lifespan, and the gap between their writing abilities and that of children developing typically widens.