

# Grammar: How Can I Say That Better?

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<b>Introduction</b> .....	147
<b>The Nature of Grammatical Deficits in School-Age Students</b> .....	147
Grammatical Development in the School Years .....	147
Determining Targets for Grammatical Intervention .....	148
<b>Intervention Studies</b> .....	154
<b>Discrete Skill Approaches</b> .....	155
Grammar Analysis .....	155
Modeling .....	156
Imitation Drills .....	156
Error Detection .....	157
Sentence Combining .....	158
Evaluating Discrete Skill Approaches .....	159
<b>Enrichment through the Writing Process Approach</b> .....	160
<b>A Framework for Targeting Grammar</b> .....	163
<b>Mini-Lesson Procedures</b> .....	165
Observational Modeling .....	165
Content Alterations .....	167
Contrastive Modeling and Imitation .....	168
Sentence Expanding .....	168
Sentence Combining .....	170
<b>Embedding Grammar Instruction into Meaningful Activities</b> .....	172

<b>Scaffolding and Micro-Lessons during Writing</b> .....	175
Expansions and Extensions .....	177
Vertical Structuring .....	177
Paraphrasing .....	180
Multiple-Choice Modeling .....	180
Partial Modeling .....	181
Prompting .....	181
<b>Addressing Grammar throughout the Composing Process</b> .....	182
Targeting Grammar during the Drafting Stage .....	182
Revising and Editing .....	183
<b>Targeting Grammar in Reading and Conversation</b> .....	184
Using Published Texts to Target Grammar .....	184
Joint Book Reading .....	185
Conversational Activities .....	186
<b>Conclusion</b> .....	187
<b>References</b> .....	188

## Introduction

An important focus for language intervention with school-age students who have language impairments is to address deficits in the grammatical system. Grammatical deficits limit a student's ability to express meaning, encode a variety of messages, and effectively participate in discourse (Donahue, 1987; Leonard & Fey, 1991; Mentis, 1994). The importance of making grammatical skills a focus of intervention is supported by research that shows the persistence of grammatical deficits beyond the preschool years (Stothard, Snowling, Bishop, Chipchase, & Kaplan, 1998) and the impact of grammatical deficits on academic success and literacy (Catts & Kamhi, 1999; Scarborough, 2001; Snowling, Bishop, & Stothard, 2000; Stothard, et al.). Many students exhibiting poor reading and writing skills demonstrate grammatical deficits, even if they have not been diagnosed as having a language disorder (Catts, Fey, Zhang, & Tombin, 1999; Juel, 1988).

## The Nature of Grammatical Deficits in School-Age Students

### Grammatical Development in the School Years

The typical plan for targeting grammar in preschool children is to follow a developmental template for introducing new structures into conversation in a particular order and at particular ages or developmental levels (see for instance, Miller, 1981). However, this type of developmental progression for grammar is not available for school-age students. There are several reasons for this.

First, the typical oral conversational format (e.g., Evans & Craig, 1992; Hadley, 1998) is not amenable to sampling the range of grammatical forms important to academic discourse. For instance, the passive form (e.g., The speeding train had been hijacked by the terrorists), which occurs frequently in expository writing, is less likely to be observed in conversational speech (Biber, 1988). Forms produced within narrative and expository genres as well as the written modality must, therefore, also be considered (Scott, 1988; Scott & Stokes, 1995). The differences between genres or modalities may mask any subtle developmental changes within a genre or modality. For example, while there is an increase in noun phrase complexity during the elementary and middle school years (Eisenberg, Ukrainetz, Justice, Gillam, & Kaderavek, 2004; O'Donnell, Griffen, & Norris, 1967), more elaborate noun phrase

structures are seen in the writing of 9 year-olds than in the speech of 12 year-olds (Perera, 1986). Even within a single genre, sampling differences can affect the presence of expanded noun phrases (Eisenberg et al., 2004).

Second, the later-developing forms are often infrequent or involve combinations of earlier-learned forms. Examples of this include verb forms with both the perfect and progressive (e.g., had been thinking) and noun phrases with both adjective phrases and relative clauses (e.g., the deceptively slender contender who had defeated the champion). This necessitates a fine-grained analysis of the structures produced in multiple and varied samples. Third, many syntactic structures serve discourse as well as grammatical purposes. For example, the conjunction *and*, in addition to its additive meaning between clauses, is used by school-age students to maintain the main flow of a story line, separating it from subsidiary events (Peterson & McCabe, 1991).

Finally, students may vary more within an age group than between adjacent age groups (see Loban, 1976; Scott, 1988). Scott notes that even the target "adult" level of competence varies considerably if one considers "realistic" versus "ideal" standards of performance. Educated adults display a wide range of syntactic sophistication, in both academic writing and oral conversation. As a result of these discourse, modality, and experiential effects, a strictly developmental view of grammatical sophistication provides limited guidance for assessment and intervention.

## Determining Targets for Grammatical Intervention

Two areas of investigation reveal the grammatical structures that are likely to require intervention. One area includes studies that have directly investigated grammatical deficits in school-age students with language impairments. These studies show an overall immaturity in grammatical structure with less elaboration and fewer complex forms than age peers (Fletcher, 1991; Simms & Crump, 1983; Thordardottir & Weismer, 2001a). In addition to immaturity, there is a low but significant frequency of grammatical errors (Bishop, 1994; Ingham, Fletcher, Schletter, & Sinka, 1998; King & Fletcher, 1993), particularly in written text (Gillam & Johnston, 1992; Scott & Windsor, 2000; Windsor, Scott, & Street, 2000).

The other area includes studies that have documented aspects of grammatical development that typically are later acquired and may occur only in writing. These later-developing structures may be completely lacking or less frequently used by students with language impairments. For instance, Loban

(1976) reported that students in a low language-proficiency group produced fewer propositions per C-unit at the end of high school than did a high language-proficiency group in first, second, and third grades. (A *C-unit* is a main clause with all attached subordinate clauses and nonclausal phrases. It includes elliptical utterances such as "Me too.") Paul (2001) suggests "preventive intervention" to target these literate language structures. Box 4.1 on page 150 lists problematic and later-developing grammatical structures that could be targets for intervention, and Box 4.2 on page 152 provides definitions of conjunction types.

Students with language impairments show a limited variety of verb forms. The persistence of deficits with grammatical morphemes, particularly those that mark verb tense, into the school years has been well-documented. Students with language impairments may show inconsistent usage of bound grammatical morphemes such as the past tense *-ed* or third person singular *-s* (Bishop, 1994; King & Fletcher, 1993; Windsor et al., 2000), and show limited ability to generalize morphemes to new word roots (Bellaire, Plante, & Swisher, 1994). Students with language impairments show limited use of the copula, auxiliaries, and modals, as well as aspectual verb forms such as the perfect (e.g., *had driven*), progressive (e.g., *was driving*), and passive (e.g., *was driven by*) that involve verb suffixes and auxiliaries (Fletcher, 1991; King & Fletcher). For instance, King and Fletcher reported errors with the passive verb form, such as, "The cow can milk by it" (instead of "The cow can be milked by it"). More elaborate forms that combine these basic verb forms (e.g., "The girl may have been seen as she left work") are later developing and are also likely to be problematic (Nippold, 1998).

Other aspects of grammar related to verbs also present problems for school-age students with language impairments. Students with language impairments produce fewer verb arguments (Ingham et al., 1998; King, 2000; King & Fletcher, 1993; Rice & Bode, 1993; Thordardottir & Weismer, 2001b). Omissions of required arguments may result in ungrammatical utterances. Students omit direct objects, for example, "I told  $\emptyset$  already," "There is something white but I can't find  $\emptyset$ ," "You can take  $\emptyset$  over there" (King & Fletcher), "When he went home he had  $\emptyset$  at the nighttime" (Scott, Windsor, & Gray, 2002). They also omit locative elements, for instance, "Put the chair  $\emptyset$ ," or "I can't fit him  $\emptyset$ " (King & Fletcher). Omissions of this sort can seriously reduce the understandability of a student's utterances. Consider a student in Ingham et al. who produced the sentence "The little boy blow a gate" to describe a picture in which a boy was blowing bubbles towards a gate, giving a misleading idea about what was being blown. Students with language

## Box 4.1

## Later-Developing Grammatical Structures

**Noun phrase expansion**

- Adjective phrase with two or more adjectives (the *three main* parts)
- Adjective phrase with adverbs (the *extremely* cold conditions)
- Post-noun modifying prepositional phrase (the details *of the plan*)
- Post-noun modifying relative clause (Thomas Edison, *who invented the light bulb*)
- Post-noun modifying nonfinite clause (the best way *to study*)
- Post-noun modifying appositive (Gonaïves, *the country's third-largest city*)
- Post-noun elaboration (Other countries *such as Italy and France*)

**Verb form expansion**

- Perfect aspect (The enemy *had reached* the outskirts of the town.)
- Passive voice (The evidence *was found* after a long search.)
- Combination of modals and auxiliaries (The company *could have been spending less*.)

**Predicate expansion**

- Combination of two-object noun phrases (The architect showed *the town council the plans for the new building*.)
- Combination of object-noun phrase and prepositional object (The assistant leaked *the scandal to the press*.)
- Combination of object-noun phrase and locative (The attorney placed the *confidential papers in a locked cabinet*.)

**Conjunctions**

- Coordinating conjunction (She had missed breakfast *but it was still too early for lunch*.)
- Subordinating conjunction (The storm destroyed many homes *even though its intensity had lessened*.)
- Correlative conjunction (Elevated blood sugar increases the risk of heart disease *not only in people with diabetes but also in those with high-normal readings*.)

## Box 4.1—Continued

**Complement clauses (nominal constructions)**

- Infinitive clause (The general decided *to invade* before dawn.)
- Tensed verb clause (The woman realized *that she had seen the stranger before.*)
- *Wh* clause (They didn't know *when the attack would start.*)
- Participial clause (The bank recently began *charging* for money machine withdrawal.)

**Adverbial constructions**

- Adverbs (I can't, *unfortunately*, get you more paper.)
- Adverbial clause with a subordinating conjunction (The space capsule crashed *when its parachutes failed to open.*)
- Adverbial clause with an infinitive verb form (He saved up his money [*in order*] *to buy a new computer.*)

**Other complex sentence constructions**

- Subject complement clause (*Patients taking the new medications* had not been told the risks.)
- Subject relative clause (*The students who had taken the review course* scored higher on the exam.)
- Preposed subordinate clause (*As the dust cloud drew closer*, the man could see that there were four horsemen riding towards him.)
- Cleft construction (*It was yesterday that* she came home from the hospital.)
- Extraposition construction (*It would be sensible* to leave early.)
- Sentences with three or more clauses (*Because the state has underfinanced its public schools, some schools have been forced to cut programs.*)

Sources: Nippold (1998); Weaver (1996)

impairments also produce fewer optional verb arguments. For instance, the participants in a study by King produced sentences such as “Some dogs bite” or “It’s running,” which, although not ungrammatical, contained limited information since they did not include objects and locatives. Thordardottir and Weismer (2001b) reported less use particularly for the later-developing argument types of source (e.g., He started out by throwing bricks at them from the roof) and beneficiary (e.g., Should I tell you about the traps?).

Box 4.2

**Definitions of Conjunction Types****Coordinating**

Join two independent clauses (*and, but, for, nor, or, so, yet*)

**Subordinating**

Introduce a dependent clause (*after, although, as, as if, because, before, even if, even though, if, since, so [that], unless, until, when, whenever, wherever, whereas, while*)

**Correlative**

Signal a symmetrical relation (*Both...and, either...or, neither...nor, not only...but also.*)

Grammar also involves rearrangement of the basic declarative sentence to form different sentence types such as negatives and questions, and combinations of simple, single clause sentences into complex utterances with two or more clauses. Students with language impairments produce fewer questions and a more limited range of questions, both in the range of *wh* words used and in the range of auxiliary and modal elements. School-age students with language impairments produce fewer complex sentences and have more difficulty producing these forms, as demonstrated by maze behaviors and the large amount of ungrammaticality for these sentences (Fletcher 1991; Gillam & Johnston, 1992). Later-developing complex forms that are likely to be problematic include adverbial connectives used for syntactic conjunction and for discourse cohesion (Greenhalgh & Strong, 2001; Scott & Klutsenbacker, as cited in Scott, 1995), left-branching structures (such as preposed adverbial clauses, center-embedded relative clauses, and clauses used as subjects), combinations of clause types within one sentence, and word order variations such as passives and cleft sentences (Scott & Stokes, 1995).

One other aspect of grammar involves phrasal expansions. Noun phrases can include one or more adjectives and these adjectives can themselves be modified by adverbs. Noun phrases can also be followed by phrasal and clausal modifiers. Students with language impairments show limited production of noun phrase expansions (Fletcher, 1991; Greenhalgh & Strong, 2001). Complex noun phrases involving more than two modifiers, modification of adjectives by adverbs, and postnoun modification are all later developments likely to be problematic for students with language impairments (Scott & Stokes, 1995).

Although school-age students with language impairments may be totally lacking in some grammatical structures, many structures may be known but used less frequently, with reduced productivity, less fluency, and less flexibility (Fletcher, 1991). A known structure may not be extended to all applicable cases. For instance, the passive verb form may be produced only with some verbs, or relative clauses may be produced in object position but not in subject position. There may also be pragmatic limitations on usage. The specific grammatical form is partly determined by discourse needs and presuppositional inferences. Students with language impairments might not be able to adapt sentence forms to meet these demands but instead, may limit use of sentence forms to single discourse contexts. For instance, questions might be used to seek information, but might not be used to seek clarification or to be more polite to an authority figure. The third-person morpheme might be used for talking about a scripted event, but might not be used in expository writing.

Grammatical limitations are particularly apparent in written discourse and, for some students with language impairments, may only be seen in writing. In a study by Windsor et al. (2000) comparing oral and written text for narrative and exposition, omissions of the regular past tense *-ed* only appeared in the written language samples. Whereas students with typical language show more sophisticated language in their writing than in their spoken discourse, Gillam and Johnston (1992) found the reverse for students with language impairments. School-age students with language impairments might continue to use spoken language forms in their writing and might not develop the more literate forms specific to written discourse (Scott, 2002).

Finally, selection of grammatical targets takes into account discourse demands and curricular expectations. If the student is expected to produce narratives, descriptions, and procedures, then the grammar required to compose these genres should be considered. Guidelines for selecting grammatical targets based on discourse considerations can be found in Leonard and Fey (1991), and Mentis (1994). In addition, the SLP should examine the curriculum to determine language structures that the student needs in order to successfully complete class assignments and participate in the classroom (Nelson, 2002). The teacher can be asked to identify average students, whose classroom participation and work products can be used as a basis for comparison to the student's performance. This is important so that targets can be prioritized in a way that matches discourse demands and teacher expectations.

## Intervention Studies

Instructional approaches for targeting grammar fall on a continuum of naturalness (Fey, 1986). At one end are the more natural enrichment approaches and at the other end are discrete skill approaches. Enrichment approaches assume that language development will occur naturally when authentic opportunities are provided. Discrete skill approaches provide direct lessons on specific aspects of language in isolation from their usage in context.

There have been few studies investigating the efficacy of either of these approaches on grammatical development and usage by school-age students with language impairments. Studies of enrichment approaches have looked mostly at the impact of intervention on overall reading and writing performance, or on language objectives for content, organization, or quantity of output. Studies of discrete skill approaches have looked mostly at usage of grammatical structures within the specific intervention context. What evidence exists suggests that teaching discrete skills may not be sufficient for improving grammatical usage outside of the intervention setting. There is, therefore, little or no empirical information on whether oral or written grammar improves for students with language impairments within either of these approaches.

Most of the evidence for efficacy comes from clinical interventions for preschool children with language impairments and from classroom instruction for students with typical language in general education or English as a second language (ESL) classes. The preschool intervention studies provide evidence that intervention approaches that employ naturalistic contexts and follow child interests may be more effective in achieving spontaneous usage of language targets than structured drill approaches (see Leonard, 1998, for a review). However, intervention for school-age students differs from intervention for preschool children in some important ways and so it is not clear to what extent we can generalize efficacy results from younger children to beyond age six. For school-age students with language impairments, it is not sufficient to target grammar within conversation. Since use of grammatical structures becomes increasingly context-dependent (Nippold, 1993; Scott, 1995), it is necessary to target structures within the specific contexts that call for those structures. Grammar must also be targeted within monologic discourse and for written language as well as for conversational discourse. The different nature of these activities may require different types of instruction.

## Discrete Skill Approaches

Discrete skill approaches provide instruction on grammatical forms separate from usage of those forms in discourse, either oral or written. While some massed practice can be helpful (Paul, 2001; Wallach & Butler, 1994; Wiig & Semel, 1980; see also Chapters 1 and 2), the use of discrete skill instruction as the sole intervention approach, without embedding use of newly acquired structures in meaningful activities, is not recommended. Discrete skill procedures that provide concentrated practice opportunities without using structures within meaningful discourse contexts can be grouped into the categories of grammar analysis, modeling, imitation drills, error detection, and sentence combining.

### Grammar Analysis

In grammar analysis, students are taught labels for grammatical constituents and analyze isolated sentences for those constituents. Killgallon (1998) referred to this as “sentence dissection” and reported that it did not result in improved sentences in student writing. Weaver (1996) reviewed a large number of studies on the efficacy of explicitly teaching grammar analysis within general education classes. Students showed little generalization of grammatical structures to contexts of use. Furthermore, they demonstrated low performance even on classroom examinations that tested their sentence analysis skills. Weaver’s conclusion was that the study of grammar—that is, labeling constituents and analyzing sentences—is a difficult activity even for typically achieving older students and, whether used alone or in combination with other instructional methods, does not contribute to functional usage of grammar in language expression, to reading skills, or to actual writing.

This lack of efficacy has significant implications for language intervention. Grammar analysis continues to be one of the predominant approaches used by speech-language pathologists (SLPs) for school-age students with language impairments. For example, Gerber (1993) recommended having a student circle or underline specific grammatical forms such as conjunctions or pronoun referents in lists of sentences. Gerber also suggested having students break up complex sentences into component clauses. The results reported by Weaver (1996) suggest that such formal instruction in grammar analysis is not helpful and takes time away from other procedures that may be beneficial.

## Modeling

In modeling approaches, students are exposed to the target form within a text or list of sentences. Teachers have used modeling in general education classrooms, including the presentation of model compositions that exemplify the characteristics of good writing (Hillocks, 1987). Teachers have also presented isolated sentences taken from published sources to provide models of literate language forms not found in their students' writing (Killgallon, 1998).

Modeling has been shown to facilitate production of grammatical forms by preschool students with language impairments within the intervention context (see Fey & Proctor-Williams, 2000 for a review). Models may be presented in a list of sentences before requiring the student to attempt the form (e.g., Leonard, 1975), a procedure that Fey and Proctor-Williams called *observational modeling*. Models may also be alternated with production attempts by the student (e.g., Connell, 1987), called *imitative modeling* by Fey and Proctor-Williams. Connell compared a modeling condition, in which the student was not allowed to produce the target, to an imitation condition, in which the student attempted the target immediately after each model. In both conditions, the target emerged in production after one session, but there was a higher proportion of usage with untrained exemplars following the intervention that included production. Ellis Weismer and Murray-Branch (1989) compared a condition of modeling without production to a condition providing intermittent opportunities for production of the target. Again, students showed improvement in both conditions but there was more consistent usage in the condition that included production opportunities. These results suggest that modeling combined with imitated productions may be beneficial for development of grammar, although the next section suggests that these improvements may not generalize well.

## Imitation Drills

In an imitation approach, students are prompted to repeat an utterance and are then reinforced for correct production. Elley (1991) reviewed studies of ESL instruction that compared an imitation approach to an indirect program that included sustained silent reading, shared book experiences (discussion and activities related to the books), and/or experience-based approaches (reading material that the student had previously dictated). Students in the indirect approach did better than students in the imitation condition not only on their

overall reading, listening, and writing but also on tests of the grammatical structures that had been explicitly taught in the direct instruction programs.

In intervention studies for preschool children with language impairments, imitation drills have been shown to be successful in facilitating correct production of grammatical targets, although this effect was limited to production of the same type of utterances in response to the same verbal prompts (see Fey & Proctor-Williams, 2000 for a review). As pointed out by Fey and Proctor-Williams, most imitation interventions involve having the child hear and produce only the target form. Connell (1982) has suggested an alternative imitation approach, in which children imitate both the target and a contrasting form that is semantically and/or grammatically related to the target. Using this approach, Connell (1986) did find generalization of grammatical targets to spontaneous usage during a play period that immediately followed a contrastive imitation activity. Imitation drills also typically have the child repeat the exact model. Another option is partial imitation, which retains the structure of the model while changing the content (Ellis Weismer & Murray-Branch, 1989; Killgallon, 1998). These studies suggest that imitation drills incorporating grammatical contrasts and partial imitations can lead to generalization beyond the immediate intervention setting. These results also suggest that the most effective timing of the imitation drill is immediately prior to an activity that involves contextual use of the same structure.

## Error Detection

As part of language intervention, Wiig and Semel (1980) suggested having students make grammaticality judgments, judging individual sentences as "right" or "wrong," or signaling when they hear an ungrammatical sentence in a list of sentences or a paragraph. Gerber (1993) suggested practice exercises in detecting and correcting errors, using sentences taken from student writing. McQuade (1980), however, reported on the lack of success of a classroom approach based on error detection. The class first studied parts of speech and basic sentence structure (i.e., grammar analysis) and then applied this to the task of looking for errors in a list of sentences written specifically for that purpose. McQuade found a decrease in the total number of errors in student writing. However, a closer look showed that this decrease was only for mechanical errors such as capitalization. Most importantly, the quality of writing did not improve and may actually have become worse since students "awkwardly

and...self-consciously constructed sentences to honor correctness above all virtues, including sense" (p. 29) and the students did not incorporate this instruction into their editing.

Structured practice in catching errors on isolated sentences does not, therefore, appear to lead to improvements in grammatical usage or even to improvements in editing. Even practice with error detection on larger passages may not be helpful if it is done outside of a context that makes the editing meaningful.

### **Sentence Combining**

In sentence combining, students are presented with two or more sentences and required to create a single, longer sentence. Combining can either be cued or open (Strong, 1986). Cued combining indicates (e.g., by underlining) the constituent in one sentence that is to be inserted into another sentence and provides additional words, such as conjunctions, to achieve particular forms of combining. In open combining, students can experiment with different ways to combine the sentences. A related procedure involves sentence expanding, having students build sentences of increasing length and complexity by adding to a kernel sentence (Gould, 2001). Both sentence combining and sentence expanding are used by SLPs in language intervention (Gerber, 1993; Paul, 2001). Gerber and Paul also suggest another alternative, paraphrasing. In this procedure, the SLP models pairs of contrasting sentences that have the same content but differ in some aspect of form. The student is then given another sentence in one of the two forms (typically the less elaborate of the two forms) and is asked to change that sentence into the modeled contrasting sentence form.

The efficacy of sentence combining in increasing grammatical complexity has been well-documented for general education students (see Strong, 1986; and Weaver, 1996, for reviews). O'Hare (1973) investigated the efficacy of explicit practice in sentence combining without any prior study of grammar analysis and without having students learn grammatical terminology. He reported that the group who participated in sentence combining exercises showed more improvement in writing than did a control group, who spent more time in a regular language arts curriculum. O'Hare reported improvement in overall writing quality as well as in "syntactic maturity," based on the range of sentence types used.

Of particular importance for language intervention is the conclusion by Weaver (1996) that this procedure works particularly well for remedial or

at-risk students. This is supported by a study of college students by Smith and Hull (1985), which reported both a structure-specific effect for the trained target forms and an overall increase in syntactic complexity. However, only the students with an initially low usage-frequency for the target forms showed improvement after the sentence combining program. Students with an initially high usage-frequency actually showed a decrease in usage of the targeted forms after the program of sentence combining.

## Evaluating Discrete Skill Approaches

In sum, some discrete skill approaches that target production of grammatical forms may be beneficial in achieving production of grammatical forms. Potentially beneficial approaches include imitation involving contrasting sentences and content alterations, modeling combined with production, and sentence combining. However, not all discrete approaches are useful. Grammar analysis and error detection for isolated sentences do not seem to be beneficial.

In addition, discrete skill approaches, although useful, cannot do the whole job and should not be used alone. Studies of both preschool language intervention and classroom instruction have found limited generalization of discrete skill instruction to contexts other than the practice drill context itself. This result is expected in a framework that suggests that skills are learned and deployed within purposeful activities (see Chapter 1). Intervention should, therefore, embed discrete skill exercises within a larger context of meaningful communication.

Another consideration is the time spent on discrete skill instruction. Most of the programs using discrete skill teaching methods involve prolonged periods of such instruction. Killgallon (1998), for instance, has developed a curriculum for classroom instruction that uses presentation of model sentences from published texts and production activities that include imitation and sentence combining. In language intervention, many SLPs provide large amounts of discrete skill instruction on grammatical targets (hence the large number of published materials for this type of instruction). Strong (1986) suggested that it may not actually be necessary to spend a lot of time on these activities. Instead, Strong advocated for classroom teachers to engage in sentence combining two to three times per week for short periods of time while monitoring student writing for problem sentences and transferring this practice back into actual writing. The Smith and Hull (1985) study of writing instruction for college students supports Strong's idea. These authors found that a week of sentence

combining paired with directions to use the longer sentences in their writing was comparable to an entire semester of practice in sentence combining. This suggests that discrete skill instruction, when it is provided, should occur in brief sessions followed by instruction that applies the lesson in meaningful writing or speaking activities.

## Enrichment through the Writing Process Approach

Enrichment approaches seek to provide learning opportunities within authentic reading and writing activities. This may be particularly important for students with language impairments who may be placed in separate classrooms that emphasize basic skills and restrict the time available for reading and writing (Christenson, Thurlow, & Ysseldyke, 1989; Graham & Harris, 2002; McGill-Frazen & Allington, 1991). The underlying philosophy of enrichment approaches is constructivism. Constructivism views the student as an active learner involved in constructing his or her own knowledge. The adult functions as a facilitator who guides the student through the discovery process (Graham & Harris, 1997) by providing task organization and interactive scaffolding.

Process-oriented classrooms provide extended opportunities for writing. Students choose their own topics and they write for a real purpose and to a real audience. Writing is preceded by brainstorming; proceeds through the stages of drafting, revision, and editing; and is followed by sharing (Gould, 2001). As characterized by Graham and Harris (1997), "children have meaningful things to say and the teacher's job is to help them learn how to say it" (p. 242). Instruction within a process approach is motivated by teacher observation of student writing difficulty rather than reflecting a preplanned series of steps (Brinkley, 1998). Within a writing process classroom, instruction takes place during individual writing conferences, mini-lessons, modeling, peer collaborations, and classroom dialogue (Gould; Graham & Harris). Nelson, Van Meter, Chamberlain, and Bahr (2001) list these same strategies in their writing lab approach to written language intervention, as well as instructional scaffolding to help students identify and repair communicative breakdowns (see also Chapter 3).

Process-oriented learning experiences utilize *teachable moments*, the teaching of specific skills when and if needed (Graham & Harris, 1997; Nelson, 1995). This approach to learning was articulated by Backus and

Beasley (1951; as cited in Newman, Craghead, & Secord, 1985) as a process that moves from the whole to the parts and back to the whole. Spiegel (as cited in Graham & Harris), however, has criticized reliance on teachable moments as leading to haphazard and incomplete instruction. In a study of an ESL classroom, Reyes (as cited in Graham & Harris) reported that a process approach to writing did not increase student usage of conventional forms (such as punctuation and capitalization) in their writing. Graham and Miller (1979) reported less gain in spelling by a group of poor readers and spellers in a process-oriented classroom than in a condition which included direct spelling instruction as well as frequent reading and writing. In a study by Gillam, McFadden, and van Kleeck (1995; described more fully in Chapter 2), students with language impairments who experienced a more process-oriented learning experience composed oral narratives with lower form scores than students who experienced a more discrete-skill approach (but showed better content and overall quality). Based on their review of such studies, Graham and Harris (1997) advocate the need to systematically teach both spelling and grammar. However, there are several possible reasons other than the process-oriented approach for the limited learning of what Graham and Harris (1997) call basic skills. One issue is the amount of time actually devoted to basic skills. For instance, Graham (1992) found that process-oriented teaching in classrooms focused mostly on discourse level skills, such as content and organization, with little attention given to skills such as grammar or handwriting.

Another issue is the stage in the writing process at which grammar is usually addressed. Grammar is typically worked on during the editing stage (e.g., Montgomery & Kahn, 2003; Nelson et al., 2001; Wong, 2000). Montgomery and Kahn suggest that "the editing process is an ideal point at which to teach language structure to students who want to learn, because it pertains to their stories" (p. 148). However, writing more than one draft is initially a struggle, even for typically achieving high school students (Callies, 1998). Students may resist revision aimed at correcting and modifying grammar, particularly if this occurs after previous revisions for content and organization. Such late-stage revision suggests to students that grammar is only a formality, rather than an important part of how meaning is expressed. Furthermore, attending to grammar only during editing may provide assistance for the current project rather than serving as a means for learning and practicing grammatical forms that can then be internalized and used more independently in subsequent writing.

The experience of Eva, an eighth-grade girl with a written language impairment, illustrates how late-stage grammatical editing can be a problem.

On her first draft of a book report, Eva had written three paragraphs, each consisting of three sentences. The speech-language pathologist (SLP) worked with her on revising her report to add content, with a focus on story grammar elements. After two cycles of revision, Eva had increased the quantity of writing to two pages and had increased the number and length of paragraphs. Her final report adequately covered the story events and provided characters and setting information. However, her report demonstrated repetitive clause structure, numerous run-on sentences connected with *and*, tense shifting between past and present, a lack of descriptive elaboration, and frequent ambiguity due to overuse of pronouns. These difficulties were presented as subsidiary editing issues, rather than as integral parts of writing that affected meaning. Not surprisingly, Eva resisted going back to her work with the SLP to do this final editing.

It may also be the case, as suggested by Freedman (1993; cited in Graham & Harris, 1997), that instruction at teachable moments may not occur frequently enough or be explicit enough for students with special needs. Whereas students with typical language can learn new forms from minimal exposure within larger contexts, students with language impairments may not benefit from such incidental or "rare event learning" (Graham & Miller, 1979; Nelson, 1988). Instead, they may need more concentrated exposure and practice opportunities in order to learn new grammatical forms (Fey & Proctor-Williams, 2000; Johnston, 1985; Nelson, Welsh, Camarata, Butkovsky, Camarata, 1995). A process-oriented approach may not, therefore, by itself provide a sufficient density of exposure and practice for learning and mastery of grammatical forms.

It seems that neither discrete-teaching nor enrichment-learning environments are sufficient for the student with a language impairment to develop and use grammatical forms. The isolated skill focus of discrete approaches directly teaches grammatical forms but does not ensure that students can transfer those forms into their conversation or writing. The holistic focus of enrichment approaches provides the meaningful context for using grammatical forms, but does not provide the explicit guidance needed for school-age students with special needs to acquire strategies and skills. SLPs will therefore need to incorporate features of both approaches to teach production of specific grammatical forms and foster use of those forms in speaking and writing. In other words, SLPs should provide repeated opportunities for intense, systematically supported, explicit skill instruction within purposeful contexts.

## A Framework for Targeting Grammar

Intervention for grammatical targets should include both direct teaching and opportunities to engage in meaningful activities for oral and written language. Intervention, whether in a separate room or in the classroom, should occur mostly within activities that come from the classroom curriculum, using the texts and assignments designated by the student's teacher. The SLP can also work with the classroom teacher to develop alternative assignments that would target specific grammatical forms.

Intervention for grammatical targets should incorporate meaningful production of those targets. Although grammar has traditionally been considered a lower-level aspect of discourse, this view needs to be changed. Grammar exists to code meaning. Meaning cannot be targeted independently from the grammatical forms used to express that meaning. Consider, for instance, the following complex sentence with two embedded clauses: *Jerry told me that he is going home now*. A student lacking knowledge of such structures and limited to simple sentences is likely to encode only one of the ideas expressed in the more complex sentence and produce only the following simple sentence: *Jerry is going home now*. Alternatively, a student might produce a series of simple sentences that separately code each of the ideas, but without conveying the relationships among them: *Jerry is going home now. He told me*. Targeting grammar, then, should occur as a first-order goal rather than occurring after content has been covered.

Explicit instruction for grammatical forms occurs during mini-lessons and micro-lessons. *Mini-lessons* are brief explanations (5 to 10 minutes) of how to do something (Atwell, 1987) and are used prior to an activity to highlight one or more grammatical forms that will be used within that activity. Note that the author uses the term somewhat differently than has been suggested for classroom teachers. Mini-lessons in classrooms involve teacher explanation and demonstration with little or no interaction with the students and with no practice exercises (Weaver, 1996). In mini-lessons for language intervention, the student learns by doing, with opportunities not only for hearing but for practicing the target. The term mini-lesson is used here to distinguish this method from the prolonged practice in isolation that typically occurs in pull-out language intervention. Mini-lessons for language intervention are interactive lessons that may include brief, focused skill drills engaged in prior to scaffolded use of a structure within a meaningful activity.

*Micro-lessons* are provided in a whole-part-whole paradigm within a single activity (Backus & Beasley, 1951). Micro-lessons involve interruption of an activity as problems arise in using specific aspects of grammar. Micro-lessons are very brief explanation and practice, taking no more than a few minutes before returning to the activity (Brinkley, 1998). To introduce micro-lessons within an activity, the SLP might say something like, "That was a hard sentence for you to write/say. Let's practice that kind of sentence."

Based on the prior literature review, instruction that involves extended practice in identifying and labeling grammatical constituents and in analyzing isolated sentences for errors should not be used. This does not exclude the use of grammatical terminology. There are some grammatical terms that the student needs to know because these are essential components of a language arts curriculum and because these terms are needed to comment on grammar during composing and revising of written work (Weaver, 1996). Students need to be able to recognize word categories such as nouns and verbs. They also need to distinguish between the subject and predicate. Rather than asking students to complete traditional grammar exercises, such as circling all the nouns, these concepts can be incorporated into comments about grammar during meaningful activities. More complex forms can also be labeled as they become relevant, but the emphasis should be on teaching through example and meaning, not formal definitions (Weaver). We must keep the goal in mind that "it's not important that they learn the grammatical terms...only that they use varied sentence structure" (Rowe, 1998, p. 107). For example, a mini-lesson to highlight relative clauses could be introduced by saying,

*This new type of sentence has a relative clause in it: 'The cup that is green is my favorite.' This part that starts with 'that' is the relative clause and it gives extra information about this noun, the cup. Let's practice making up relative clause sentences and then we can try them out in your paper.*

Grammar must be targeted systematically. Within any activity, no more than three new or emerging targets should be addressed. The SLP can continue to support previously targeted forms by commenting on them when they are used by the student and by providing scaffolding when they are not used. The SLP should keep a list of grammatical targets for each student, which includes previous as well as current targets. It is also helpful to list structures that have been identified as future targets. This helps the SLP to modulate current expectations for the student's performance so that too much is not expected, keeping in mind that "the goal for students is to steadily increase their skills,

not necessarily to produce a flawless product" (Gould, 2001, p. 194). In addition, the expected performance of the student should not be achievement of structures in isolated sentences (e.g., John will produce expanded noun phrases), but rather integrated use within meaningful discourse (e.g., John will write a description that appropriately employs expanded noun phrases, subject-verb agreement, and compound sentences).

## Mini-Lesson Procedures

Mini-lessons present examples of grammatical forms and include brief massed practice opportunities for production of those forms prior to an activity incorporating embedded skills instruction. The purpose of the mini-lessons is to familiarize the student with grammatical forms that will be useful and appropriate to the subsequent activity. Mini-lessons can also help the student achieve fluency in generating grammatical forms that have been previously targeted but are still not readily generated by the student. This section describes five methods for teaching school-age students syntax targets during mini-lessons: *observational modeling*, *content alterations*, *contrastive modeling and imitation*, *sentence expanding*, and *sentence combining*. These methods are described separately but, in actual practice, will often be used together. A modification for school-age students is the addition of simple metalinguistic comments that address the forms being used and the meanings conveyed by those forms.

### Observational Modeling

In observational modeling, a series of sentences containing a target form are presented to the student. Fey and Proctor-Williams (2000) suggest presenting between 10 and 20 model sentences that describe pictures so that the student can see the form-meaning relationship. In their approach, the student listens to the entire set of models before any production attempts are elicited. The student is then asked to produce the same sentence form to describe either the same set of pictures or a different set of pictures. The student is given feedback about linguistic accuracy. An example of observational modeling for relative clauses is presented in Table 4.1 on page 166.

As an alternative, the student could be presented with short cohesive texts that include a high density of the target form. Short books and poems work well for this. Ratner, Parker, and Gardner (1993) provide a list of books for younger students grouped according to grammatical form. Note that to

### Observational Modeling Procedure for Teaching Relative Clauses

Table 4.1

Step	Example Script
<p><b>Step 1</b></p> <p>SLP models sentences with relative clauses, pointing to the people in the picture.</p>	<p>SLP: (Picture 1) Here's a boy who is wearing a raincoat. And here's another boy who is wearing a sweatshirt. This girl knows the boy who is wearing the sweatshirt. She doesn't know the boy who is wearing the raincoat.</p> <p>(Picture 2) Now I see some children who are hungry. And here are some other children who are thirsty. The teacher's giving bread to the children who are hungry. She's giving juice to the children who are thirsty.</p>
<p><b>Step 2</b></p> <p>Student produces delayed imitation of sentences with relative clauses.</p>	<p>SLP: Tell me about this picture.</p> <p>Student: These ones are wearing coats. And these other ones are wearing sweatshirts.</p> <p>SLP: These children will be the warmest. They're the ones who are wearing coats. Who will be the warmest?</p> <p>Student: The boys what are wearing the coats.</p> <p>SLP: Listen to how I say it. Who will be warmest? The boys who are wearing sweatshirts or the boys who are wearing coats?</p> <p>Student: The boys who are wearing coats.</p> <p>SLP: Yes, the boys who are wearing coats will be the warmest.</p>

Source: Fey & Proctor-Williams (2000)

achieve a sufficient density of models, it is often necessary to modify the text. As in the observational modeling procedure above, the student can be asked to *produce the same sentence form by retelling the story or by talking about a new set of pictures*. Another possibility is to incorporate observational modeling into joint book reading (Kirchner, 1991; Ratner et al.). In this procedure, a book is read several times so that the student can become familiar with it. The book is read again, with pauses added at various points so that the student can participate in the book reading and produce the target form.

### Content Alterations

A different procedure is to alternate between the SLP's models and the student's productions and to have the student produce sentences that replicate the structure of the modeled sentence with different content (Killgallon, 1998). As for observational modeling, the modeled sentences should describe pictures so that the student can see the connection between form and meaning. Books can be used here as well, with the adult and student taking turns reading the text or describing the pictures. Box 4.3 presents an example of content alteration for a perfect verb form.

#### Content Alteration Procedure for a Perfect Verb Form

Box 4.3

Context	Example Script
<p>A sequence of two pictures:</p> <ol style="list-style-type: none"> <li>1. A boy <i>running</i> and a girl <i>riding</i> a bike</li> <li>2. Both students at home with the boy <i>looking out of breath</i> and the girl <i>not looking out of breath</i></li> </ol>	<p>SLP: The boy and the girl are late going home. Look, the boy is really out of breath. He had run so fast. The girl isn't so tired. Why not?</p> <p>Student: She <i>rided</i> her bike.</p> <p>SLP: The boy is really out of breath. He <i>had run</i> home. He <i>had not ridden</i> his bike. And the girl?</p> <p>Student: She had <i>ridden</i> her bike.</p>

## Contrastive Modeling and Imitation

Contrastive modeling and imitation (Connell, 1982) exposes the student to the target form and to another form that is semantically and/or grammatically related to the target. The contrasting sentences differ in some aspect of grammar that results in a meaning difference. Providing this contrast makes the target form more salient and helps the student to figure out the meaning of the new form. Depending on the type of structure being targeted, the contrast may be limited to a discrete part of the sentences (e.g., *The boy should wear long pants* versus *The boy should be wearing shorts to school* to target combinations of an auxiliary and modal) or may involve rearrangement of the entire sentence (e.g., *The battle was over late in the day* versus *It was late in the day before the battle was over* to target cleft constructions). This latter example could be regarded as a paraphrase rather than a true contrast. However, the shift in focus engendered by the change in form does create a subtle shift in the meaning being conveyed.

Cleave and Fey (1997) suggest presenting 10 models of the target followed by 10 models of the contrasting form. After hearing the models, the student is required to imitate the two forms in alternation, one after the other. Another format would be to present alternating models of the target and contrast, and then ask the student to produce just the target.

In the Cleave and Fey (1997) formulation, all the models and student productions describe pictures so that there is a relationship between form and meaning. However, the sentences themselves are isolated from each other so the activity is rather contrived and artificial. An alternative is to link the sentence into a larger meaningful unit, which makes it easier to discuss the meaning being imparted by the target structure. Table 4.2 demonstrates an example in which all the sentences lead to a fanciful image of breakfast across time and for different students. A metalinguistic comment introduces the discussion, to focus the student's attention on the target structures. The exchange ends with a nontechnical comment about the contrastive meanings achieved by the two structures.

## Sentence Expanding

Sentence expanding starts with one simple sentence, called a *kernel sentence*. Students build sentences of increasing length and complexity by adding to the kernel sentence (Gould, 2001; Killgallon, 1998). Students are prompted to expand on the kernel in several ways: by providing a model and then having the student suggest other possibilities, by asking the student a *wh* question, or

### Contrastive Imitation Introduced by Metalinguistic Comments

Table 4.2

Steps	Example Script
Skill Target	<p>SLP: Listen, I'm going to say sentences about what happened in the past, two different ways. One way, "ate," shows it just happened once. The other way, "had eaten," shows it happened a lot.</p>
Simple Past Models	<p>SLP: First listen to these.</p> <ul style="list-style-type: none"> <li>• This morning, John ate yogurt for breakfast.</li> <li>• Yesterday, John ate bananas for breakfast.</li> <li>• Last week, John ate eggs for breakfast.</li> <li>• Two weeks ago, John ate cereal for breakfast.</li> <li>• At Christmas, John ate a candy cane for breakfast.</li> </ul> <p>John <b>ate</b> each kind of food only once.</p>
Past Perfect Models	<p>SLP: Now, listen to these.</p> <ul style="list-style-type: none"> <li>• Bill had eaten yogurt for breakfast every day for the last week.</li> <li>• Sally had eaten bananas for breakfast every day for the last two weeks.</li> <li>• Bill had eaten eggs for breakfast every day for the last month.</li> <li>• Janelle had eaten cereal for breakfast every day for the last six months.</li> <li>• Sari had eaten candy canes for breakfast every day for the last year!</li> </ul> <p>These children <b>had eaten</b> the same thing over and over again!</p>

Continued on next page

Table 4.2—Continued

Steps	Example Script
Student-Imitated Productions	SLP: Say this: This morning, John <b>ate</b> yogurt for breakfast.
	Student: This morning, John ate yogurt for breakfast.
	SLP: Yes, John ate yogurt just this morning. Maybe he'll eat some again tomorrow.
	SLP: Kari, now say this: Bill <b>had eaten</b> yogurt for breakfast every day last week.
	Student: Bill had eaten yogurt for breakfast every day last week.
	SLP: Yes, Bill <b>had eaten</b> yogurt so many times, he's really sick of it now!

by suggesting the content to be added. Box 4.4 provides an example, based on a discussion of *Ordinary People* (Guest, 1982). Alternatively, the student could be presented with an incorrect constituent expansion and then be prompted to correct it (Grauberg, 1988).

### Sentence Combining

In sentence combining, students are presented with two or more simpler sentences and asked to combine them into one longer sentence (Strong, 1986; Wiig & Semel, 1980). Combining can be either cued or open. Cued combining aims to establish prespecified sentence forms, whereas open combining allows students to experiment with different ways to combine sentences. Strong describes four types of cues that can be given, listed in Box 4.5 on page 172. Ordering the sentences to be combined cues students to the order they should use in the new sentence. Underlining cues students to the constituents to be embedded at another place within the new sentence. Striking out words cues students to what should be deleted from the existing sentence to form part of the new sentence. Providing additional words and morphemes, capitalized and within parentheses, cues students to details needed for completing the final sentence. Students learn the cues through demonstrations and while participating in sentence combining exercises rather than by having them directly explained.

Box 4.4

### Example Sentence Expansion for Preposed Adverbial (Subordinate) Clause

**Starting sentence:** "He can feel the eyes on him."

SLP: Where was he when he felt this?

Student: He was standing in an aisle in a library.

SLP: Let's put that at the start of the sentence. Start by saying where he was.

Student: Where he was...

SLP: He was standing in an aisle at the library. Start with "when" and give the location.

Student: *When he was standing in an aisle in a library, he felt the eyes on him.*

Source: Killgallon (1998)

Examples of sentence combining for various structures are provided in Box 4.6 on page 173, with target sentences drawn from an authentic reading source. Sentence combining is useful for targeting complex sentences (Scott, 1995; Strong, 1986; Westby & Clauser, 1999). Complement clauses, for instance, can be targeted using SOMETHING as a placeholder for the complement clause. To target relative clauses, as suggested by Gerber (1993), the constituent to be embedded after the noun is cued by underlining it and the relative pronoun to be added is also cued. Sentence combining can also be used to target phrasal elaborations. In targeting adverb use, as suggested by Westby and Clauser, underlining cues the adverb embedding and the adverb morpheme is also cued. Strong and Strong (1999) provide an example of a systematic method of approaching this.

Sentences can be taken from published sources such as newspapers or literature. Sentences can also be taken from classroom texts. Gould (2001) suggests taking sentences from student writing and having them experiment with different combinations. Students can decide which option is best and why, including the option not to combine if that better represents the intended

### Sentence Combining Procedure for a Sentence Taken from the *New York Times*

Box 4.5

#### Strong's cues

- Order of sentences
- Underlines
- Strike-outs
- Additions

#### Simple sentences using cues to prompt sentence combining

In ~~some~~ people the disease is ignored. (EVEN)

~~Some people~~ have the most severe and frequent symptoms. (WHO)

Doctors don't pick up on the signs. (BECAUSE)

#### Target complex sentence created from cues

"Even in people who have the most severe and frequent symptoms, the disease is ignored because doctors don't pick up on the signs" (p. F10).

Sources: O'Connor (2004); Strong (1986)

meaning. Using the students' own writing for the sentence sources is the most meaningful context and would be expected to be the most likely to result in students applying sentence combining in their own subsequent compositions. Regardless of the source of sentences for this exercise, students will need subsequent micro-lessons during writing to combine their own sentences into more sophisticated constructions.

## Embedding Grammar Instruction into Meaningful Activities

Students benefit from learning about word categories and sentence structure, and there are ways to work on this in a meaningful way without using grammar analysis. A fill-in procedure can be used to work on word classes. Excerpts from children's literature that employ a particular structure repetitively or ready-made

### Sentence Combining Examples for Target Sentences Taken from the *New York Times*

Box 4.6

Cuing sentences:	Some experts say SOMETHING. The problem stems from preschool itself. (THAT)
Tensed complement sentence:	“Some experts say that the problem stems from preschool itself” (p. 1).
Cuing sentences:	Some experts wonder SOMETHING. Standards are too high. (WHETHER)
<i>Wh</i> complement sentence:	“Some experts wonder whether standards are too high” (p. 4).
Cuing sentences:	Proponents of education equity are critical of government programs like Head Start. <del>Head Start programs</del> are less academic and more focused on emotional and behavior issues. (WHICH)
Nonrestrictive relative clause sentence:	“Proponents of education equity are critical of government programs like Head Start, which are less academic and more focused on emotional and behavior issues” (p. 4).
Cuing sentences:	Disruptive students can destroy the classroom experience for others. <del>The disruption is certain.</del> (-LY)
Adverb embedding sentence:	“Certainly, disruptive students can destroy the classroom experience for others” (p. 4).

Source: Steinhauer (2005)

materials, such as the commercially available *Mad Libs* (Penguin Books, 2005), can be used. The SLP presents the story with crucial words missing. Students are asked to supply a particular type of word or phrase. For example, emotion adverbs (e.g., sadly, angrily, curiously, excitedly) can be used to describe how the monkey and the keeper acted in *Curious George* (Rey, 1952). The activity can be made easier by initially limiting the missing elements to a single word type and gradually incorporating additional word categories, one at a time. A similar activity involves a substitution game in which the student suggests changes to words or phrases in a story (Gould, 2001). Temple and Gillett (1984) suggest having students construct sentences in which a single word category is repeated and which ends with a contradictory instance (e.g., *The bird sailed, swooped, swayed, and soared but never stopped*) to target verbs.

Word classes can also be worked on in a meaningful way within poetry. Gould (2001) suggests an *insert-a-word* procedure for adding descriptive elements to students' sentences. Students first brainstorm kernel sentences that follow a modeled form and then combine those sentences to create a poem. The poem is then expanded by adding a designated word or phrase type to each sentence. The following poem, for example, is made up of subject-verb kernel sentences that students generated from a list of rhyming words.

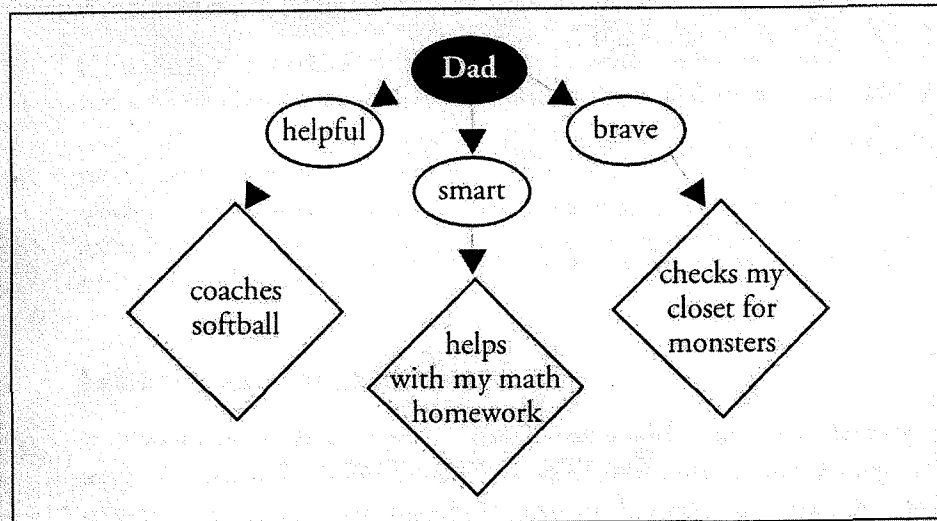
Cars beep.  
Deer leap.  
Chicks cheep.

The kernel sentences of the poem can be expanded to add word categories such as adjectives (*Fluffy chicks cheep*) or adverbs (*Cars loudly beep*).

Peterson (1998) suggests using a graphic organizer for constructing what she calls *adjective/verb poems*. An example is shown in Figure 4.1. Students create the graphic organizer during prewriting. They choose a topic (e.g., *Dad*) and write that topic in a circle at the center of a page. Next, they think of words that describe that topic and place these words in circles connected by spokes around the topic (e.g., *helpful, smart*). The students then think of action words to go along with their adjectives (e.g., *coaches, solves problems*) and add them in an outer ring of circles to the cluster. Using different shapes or colors, as shown in the example, can help to separate the different word categories. Finally, the student creates sentences, such as "Helpful dads coach softball," (by taking one word from each level of the organizer) and puts these sentences together to form a poem.

### Adjective/Verb Poems through a Graphic Organizer

Figure 4.1



Poetry activities can also be structured so that the student has to follow instructions about the form of each line. Gould (2001) gives an example of an 11-word, 5-line poem adapted from the cinquain form, made up of a noun (line 1), two adjectives describing that noun (line 2), three *-ing* verbs describing the noun (line 3), a 4-word descriptive phrase about the noun (line 4), and a second noun related to the first noun (line 5). An example of using a cinquain poem to identify and employ nouns, adjectives, and verbs is shown in Box 4.7 on page 176. Within each of these fill-in and poetry activities, the student would hear grammatical terms such as *noun*, *adjective*, and *verb* but would always learn these concepts in an incidental, functional manner.

## Scaffolding and Micro-Lessons during Writing

There are a variety of successful strategies for targeting conversational language in preschool students (see Fey, 1986; and Fey & Proctor-Williams, 2000, for reviews). Interactive scaffolding, described by Ukrainetz in Chapter 1, can be used to develop grammatical forms in school-age students during writing activities such as personal experience letters, letters for persuasion, fictional stories, journalistic reporting, explanations, and poems. Scaffolding can be provided immediately after the student produces a sentence that provides a

## Meaningful Grammar Practice Using a Cinquain

Box 4.7

- Line 1:** One word, the title (a noun)  
**Line 2:** Two words, each describing the title (adjectives)  
**Line 3:** Three words, each expressing an action (verbs)  
**Line 4:** Four words, expressing a feeling (start with an adjective)  
**Line 5:** One word, a synonym for the title (a noun)

**Flame**  
Hot, bright  
Burning, raging, spreading  
Warm on my face  
Fire

context for using a specific target form. Alternatively, the SLP can wait until the student has written an entire paragraph and then review that paragraph with the student, selecting a sentence that provides a context for using the target and scaffolding support for modifying that sentence to include the target. Models presented during scaffolding can be written down for the student as well as spoken. If a computer is being used, the student can try out different options. The student can then choose among the alternatives, including the choice not to make any change.

The following descriptions of interactive scaffolds are arranged from most to least supportive: expansions and extensions, vertical structuring, paraphrasing, multiple-choice modeling, partial modeling, and prompting. These scaffolds are intended to be used interactively within the context of a writing activity. Each of the scaffolding strategies is described separately, but different scaffolds can be used during a single activity to promote a particular grammatical structure. They can also be combined with self-regulatory scaffolds, such as reminding the student about the target form or prompting the student to explain how the target structure helps express a particular meaning.

Scaffolding may target structures that were introduced in a mini-lesson just prior to an embedded skills activity, as well as structures that were targeted in other sessions. Scaffolding should function not only to offer assistance to the student at a moment of difficulty, but also to promote acquisition of the target. If needed, the embedded skills activity can be briefly interrupted so that additional scaffolding can be provided in micro-lessons. These micro-lessons provide a quick review and practice for difficult structures. It is important that these interruptions be kept brief, one to two minutes at most, and the activity quickly resumed. If additional practice is needed for a structure, the SLP can include that structure in another mini-lesson before an activity in which the structure will be used.

### Expansions and Extensions

Expansions and extensions provide consequent modeling after a student's sentence. Expansions involve repeating the student's sentence and adding any grammatical elements that have been omitted. Examples of expansions that add bound morphemes, grammatical words, and phrases to the student's sentence are shown in Table 4.3 on page 178. Extensions also repeat the student's sentence but add new information to an otherwise correct sentence or in addition to the expansion. Extensions can add words, phrases, or even clauses. The expansion or extension can be said out loud, with the student writing down the change. The expansion or extension can also be accompanied with an explanation about what is being added.

### Vertical Structuring

Another strategy that follows a student sentence is vertical structuring (Schwartz, Chapman, Prelock, Terrell, & Rowan, 1985). The SLP follows up on the student's utterance by soliciting additional information. This can be done by asking one or more *wh* questions that indicate the specific type of information to be provided by the student (e.g., "Who wanted it?") or through *mands* (i.e., a directive that requests information, such as, "Tell me who wanted it"). After the student's response, the SLP can model the target form by saying or writing an utterance that combines the student's original content with the new content provided in response to the SLP's queries, as shown in Box 4.8 on page 179. Alternatively, following the student's response, the clinician can start the target sentence and prompt the student to complete it with the new content, as shown in Box 4.9 on page 179.

Scaffolding may target structures that were introduced in a mini-lesson just prior to an embedded skills activity, as well as structures that were targeted in other sessions. Scaffolding should function not only to offer assistance to the student at a moment of difficulty, but also to promote acquisition of the target. If needed, the embedded skills activity can be briefly interrupted so that additional scaffolding can be provided in micro-lessons. These micro-lessons provide a quick review and practice for difficult structures. It is important that these interruptions be kept brief, one to two minutes at most, and the activity quickly resumed. If additional practice is needed for a structure, the SLP can include that structure in another mini-lesson before an activity in which the structure will be used.

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### Examples of Expansions and Extensions during Writing Activities

Table 4.3

	Element	Example Script
Expansions	<b>Bound Morphemes</b>	Student sentence: You pour the acid slow into the beaker. Adult expansion: You pour the acid <i>slowly</i> into the beaker.
	<b>Words</b>	Student sentence: Reptiles called cold-blooded animals. Adult expansion: Reptiles <i>are</i> called cold-blooded animals.
	<b>Phrases</b>	Student sentence: The boy found under the chair. Adult expansion: Hm, this doesn't say what the boy found. The boy found <i>the missing ball</i> under the chair.
Extensions	<b>Words</b>	Student sentence: The sun keeps reptiles warm. Adult extension: The sun keeps <i>cold-blooded</i> reptiles warm.
	<b>Phrases</b>	Student sentence: The girl drove home. Adult extension: Let's add how she drove home. The girl drove home <i>in her new car</i> .
	<b>Clauses</b>	Student sentence: Spain gave Florida to the United States. Adult extension: Let's add why Spain did that. Spain gave Florida to the United States <i>to avoid war</i> .

### Example of Vertical Structuring for a Subject Relative Clause

Box 4.8

Student is shown a picture of children at a zoo.

- SLP: Tell me about the children in this picture.
- Student: This boy sees the lion.
- SLP: Uh-huh. Tell me something else about him.
- Student: He's wearing a baseball cap.
- SLP: Yeah, the boy *who is wearing a cap* sees the lion. And what about this other boy?

Source: Paul (2001)

### Example of Vertical Structuring and Prompting for a Nonrestrictive Relative Clause

Box 4.9

- SLP: So tell me some things about Zeus.
- Student: He was the king of all the other gods.
- SLP: And what else?
- Student: He always had a thunderbolt.
- SLP: OK, so we have two things to say about Zeus. One, he was the king of all the other gods. Two, he had this thunderbolt. How about using the word *who* to combine those ideas? Zeus, who was...
- Student: He was the king of all the other gods.
- SLP: Zeus, who was...
- Student: The king of all the other gods?
- SLP: Yes, Zeus, who was the king of all the other gods, always had... You try it.
- Student: Zeus, who was the king of all the other gods, always had a thunderbolt.

Source: Paul (2001)

Vertical structuring works well for any structure that adds information to a sentence. This includes adding an adjective, prepositional phrase, or relative clause to a noun phrase. It also includes adding a coordinate or subordinate clause to a simple sentence. During initial writing, the SLP can use vertical structuring after the student has written a sentence, or can first suggest a sentence based on the prewriting information and follow up on that sentence with the vertical structuring. Additional help can be given through prompts following the question or mand. The student can be given options for constituent elaboration or the SLP can provide an incorrect answer for the student to correct (Grauberg, 1988). Vertical structuring works particularly well after a mini-lesson in which the student has practiced sentence expansion.

### **Paraphrasing**

This scaffold involves repeating the student's sentence and then providing a model that retains the content of the student's sentence but changes the form (Connell, 1982, 1986). The student can then be asked to choose between the two contrasting sentences—the original sentence and the paraphrase. This strategy is particularly suited for targeting different conjunctions for a student who over-uses *and* (e.g., student sentence: *I went to the store and I went to the park and I went home*; paraphrase: *I went to the store before I went to the park and then I went home*). It can also be used for targeting sentence forms that involve rearrangement of the basic active, declarative sentence into other patterns such as cleft constructions or passive sentences (e.g., student sentence: *The police attacked the demonstrators with tear gas*; paraphrases: *The demonstrators were attacked by the police with tear gas*; *Tear gas was used by the police to attack the demonstrators*). The SLP can introduce the contrasting sentence by saying, "What if you say it this way instead? How would this change the meaning?" As illustrated above, the SLP can present more than one paraphrase option. The paraphrase strategy is particularly effective when contrastive imitation has been used during the mini-lesson that precedes the writing session and uses the same types of sentence pairs.

### **Multiple-Choice Modeling**

Options for elaborating on sentences can be provided by giving the student choices. Choices can be provided in the form of a multiple-choice question. For instance, in response to the student's utterance, "This boy sees the lion," the SLP could model a choice of two relative clauses, "Which boy sees the lion,

the boy who is wearing a cap or the boy who is wearing the red shirt?" An alternative is to ask the student questions such as, "Which one is right?" and then present two or three sentences with the same form but differing content. The student thus hears several models of the target and selects one based on accuracy of the content. Like vertical structuring, this strategy is good for targets that involve adding constituents to the student's sentence and would work well after a mini-lesson in which the student has practiced sentence combining or sentence expansion.

### Partial Modeling

Support can be decreased by reducing the exactness of the model while still demonstrating the target form. The SLP makes a suggestion that the student use a particular form, saying for instance, "How about this type of sentence?" then models a sentence that uses the target form. The SLP then prompts the student to try using the same form in a new sentence, as shown in Box 4.10. The sentence can be written down and the student can construct his sentence underneath, matching each constituent of the model sentence. A partial model can also be presented by producing the target form with inaccurate content. The student would then use the modeled sentence form with different content as a correction of the model.

### Prompting

The scaffold that provides the least support is the prompt. The SLP asks questions to prompt the student to add constituents or rearrange the sentence,

#### Example of Partial Modeling for a Tensed Verb Complement Clause

Box 4.10

- |          |   |
|----------|---|
| SLP:     | So tell me about muscles.   |
| Student: | Muscles are part of the body and they make you move.  |
| SLP:     | What about writing that with a relative clause sentence like this one? Cereal is a kind of food that you eat for breakfast. |
| Student: | Muscles are a part of the body that make you move.  |

without providing a model. The student can be asked, "Remember about using more description. Can you add anything here?" to prompt noun phrase elaboration. Nelson et al. (2001, p. 215) suggest the prompt, "Remember your goal to start sentences in interesting ways. What's another way besides *and then*" to prompt use of sentence-initial subordinate clauses. For a less interactive scaffold, symbols can be written into a piece of work to prompt additions or rearrangements of constituents. This is easy to do if using a computer, either immediately after a sentence is written or in reviewing parts of the written piece. For handwritten pieces, the student should skip lines when writing to leave room for additions and changes. The student can refer to a key that explains the symbols and then make his or her own corrections. This structural scaffold assumes the student has an emerging mastery and requires only reminders to understand and enact the changes.

## Addressing Grammar throughout the Composing Process

The preceding section described the interactive scaffolds that can be employed during a writing activity. Attention now turns to the composing process and ways to teach grammar at each stage of this process. The composing process typically begins with a prewriting activity to generate content. The initial draft is then written, followed by rewriting and then editing. Content and organization are addressed during the initial drafting and revision stages. Elaboration of grammatical forms and correction of grammatical errors are usually targeted during the editing stage of the writing process (Montgomery & Kahn, 2003; Nelson et al., 2001; Sturm & Koppenhaver, 2003; Wong, 2000). This typical organization of the writing process addresses the complexity of composition, but ignores the importance of grammar in establishing the initial meaning to be conveyed.

### Targeting Grammar during the Drafting Stage

Grammar can be worked on during collaborative writing of initial drafts. In fact, for some students, it is essential to work on form while the meaning is being encoded in a first draft. Even typically achieving students find it difficult to write more than one draft (Callies, 1998). Students find self-evaluation difficult and this is particularly true for students with weaker discourse skills (Kaderavek, Gillam, Ukrainetz, Justice, & Eisenberg, in press). Once they put

ideas into words on paper, it is difficult for these students to think of another way to state the ideas. Students may also be less aware of grammatical errors or ambiguities than of missing or inaccurate content, so it is difficult for them to identify sentences that need editing for grammar. Many students—even those who are typically developing—may not be able to make grammatical changes during revision or editing, particularly changes that modify simpler grammatical forms into more complex and elaborated sentences rather than catching errors (Rowe, 1998). Students may resist further revision to correct and improve grammar after they have already revised their writing content and organization. These problems are circumvented by targeting grammar as it encodes meaning during the initial draft and then revising grammar while adding to and modifying content. To target grammatical forms during initial drafts, prewriting must be used to identify the content to be included and to group the information to be included in each paragraph. Then guidance is needed in developing key words and phrases into suitable sentences. Brief mini-lessons can be used in the prewriting and drafting stages to introduce the new grammatical forms that will be integrated into the writing assignment.

### Revising and Editing

Students with typical development need instruction in revision and editing (Rosen, 1998; Rowe, 1998; Weaver, 1996). We can, therefore, expect that students with language impairments will need explicit instruction on the process of revising and editing their writing, in addition to lessons focusing on specific grammatical forms. The focus of these lessons should be on making choices to convey meaning rather than on correcting mistakes (Brinkley, 1988). These lessons teach strategies, such as making multiple passes through a writing draft to check on various aspects of grammar (e.g., checking for missing sentence constituents, looking for places where ideas could be combined into longer sentences, and checking for omitted word endings).

The SLP should model the revision and editing process. This introduces the student to specific editing strategies, but also demonstrates that these steps are a natural part of the writing process. Students initially do better in modifying others' writing rather than their own writing, so it can be helpful to have students first practice with peer writing samples (Brinkley, 1988; Rosen, 1998; Scott, as cited in Paul 2001). Just as we gradually introduce grammatical targets during drafting, we must be selective during the revision and editing process. It is important to limit the extent of revision and editing regarding the number

and range of changes. Rosen suggests selecting a few problems and then showing “benign neglect” for everything else.

Revision and editing strategies can be set up as questions, such as, “Have I connected the ideas?” (Paul, 2001) or as question-answer pairs as shown in Box 4.11. Once a strategy has been presented and practiced in an authentic activity, it can be added to an editing checklist to which the student can refer.

#### Box 4.11 Question-Answer Pairs for Revision and Editing

- **Does your piece have complete sentences?**  
Add words or rewrite each complete sentence so it will be complete.
- **Does your piece make sense?**  
Rewrite any sentences you want to make clearer.
- **Does your piece show connections between ideas?**  
Combine sentences so ideas will be connected.

Source: Brinkley (1998)

## Targeting Grammar in Reading and Conversation

### Using Published Texts to Target Grammar

The model of intervention advocated here focuses on production. That does not mean that comprehension is ignored. Rather, since grammatical forms are only worked on in contexts that tie them to meaning, comprehension and production develop together. Reading activities can be used in a way that allows opportunities for production while incorporating comprehension. Class reading assignments in textbooks and literature can be used for working on grammatical forms. Books and poems can also be chosen that exemplify particular grammatical patterns. Descriptive passages from a chapter book can illustrate how expanded noun phrases are employed to provide detailed imagery. Instructions from computer manuals can be used to illustrate imperative sentence structure. Seeing how actual authors compose sentences to achieve

particular meanings and purposes provides the students with a larger direction for their structured and embedded grammatical intervention activities.

## Joint Book Reading

In joint book reading, a book or passage is read aloud to the student several times, using prosody to segment and highlight the target patterns. Once the student is familiar with the text, the SLP inserts pauses during the reading to give the student opportunities to produce the target form in the memorized text (Kirchner, 1991; Ratner et al., 1993). Joint book reading is often used as a strategy for preliterate students, but it can also be used with older students to introduce new grammatical forms. Joint book reading can be used as a mini-lesson prior to writing activities. The story or poem used for joint book reading can serve as a model for the students to subsequently write their own stories or poems using the same form.

The joint reading procedure is most appropriate for brief texts with repetitive patterns, including poetry, since it involves multiple readings of the same text. Tompkins and Webeler (1983) have organized books according to their structural characteristics. Two of their categories are particularly good for targeting specific grammatical structures: books with repetitive language patterns in which a certain phrase or sentence is repeated at various points throughout the story (e.g., *Brown Bear, Brown Bear, What Do You See?* [Martin, 1967]) and books in which a word, phrase, or sentence is added to a repeating sequence in succeeding episodes (e.g., *The Very Hungry Caterpillar* [Carle, 1969]). Ratner et al. (1993) also provide a list of books, grouped by grammatical form.

An alternative read-aloud procedure is an adaptation of Interactive Language Development Teaching (Lee, Koenigsknecht, & Mulhern, 1974). This procedure can be implemented with texts of any length, either on the first or in subsequent readings of a text. It can be used to work on a single form or on several forms concurrently. The SLP reads aloud while the student listens and follows along in the text or the SLP follows along with the student as they listen together to a recording of the book. The reading is interrupted whenever instances of a target form have been read. At that point, the student is asked a question that prompts an imitation of that sentence. During the read-aloud activity, the SLP makes reflective comments that help the student to recognize the constituents of the sentence and how they are combined. A break-down procedure can be used for this. As shown in Box 4.12 on page 186, the SLP first reads a sentence, then separates out clauses and phrases, and lastly says the whole sentence again.

### Example of a Break-Down Procedure for Extraposition

Box 4.12

SLP reads from a newspaper article: It would be a huge upset for Stepping Out to win both the Preakness and the Derby.

SLP recaps the sentence (after first checking that the student understands the word "upset" and knows what the Preakness and Derby are): So this horse, Stepping Out, maybe will win these races. But no one really expects him to, right? People don't expect that, so it would be an upset.

SLP restarts the sentence: It would be a huge upset for what?

Student: If he won the race.

SLP repeats the sentence: Yeah, it would be a huge upset for Stepping Out to win both of the races.

Source: Fey (1986)

### Conversational Activities

In much of school-based remediation, reading and writing will be the major activities for language intervention. This reflects the difficulty that students with language impairments have with written language. However, some students may also need to work on grammar in conversational discourse. This intervention should also be situated in meaningful activities, although it may not be possible to implement grammatical instruction procedures in naturally occurring discourse contexts. As an alternative, group situations can be set up in which the students select and discuss topics that are relevant and interesting.

As described for writing intervention, mini-lessons that focus on particular forms can precede the discussion and then scaffolding can be provided during the discussion for these same forms. Most of the scaffolding strategies discussed above were originally developed for conversationally based intervention and so the SLP can use those same methods—such as *vertical structuring*, *expansion*, or *prompting*—to scaffold each student's participation in the discussion.

## Conclusion

This chapter has set out a contextualized skills approach towards grammatical intervention for school-age students with language impairments. This approach situates grammatical intervention within meaningful reading, writing, and speaking activities that provide repeated opportunities to learn and use grammatical forms to express meaning and participate in discourse. The approach incorporates some discrete skill instruction, but always in a way that helps students to apply the discrete skills to authentic activities involving reading, writing, and speaking. This authenticity is crucial. Students must have a reason for doing the things that lead them to learn and use grammar so that they can read, write, and speak better. However, the setting is less crucial. This hybrid instruction can take place in the classroom but can also be provided in pull-out sessions, with individual students as well as with groups.

For many SLPs, contextualized skill instruction will be a big change. However, this approach actually uses many of the same procedures as the more traditional isolated skill intervention but packages them somewhat differently. Rather than concentrating on discrete skill training as an end in itself, this chapter incorporates the use of massed practice (i.e., contrived opportunities to get students started on particular targets) by presenting mini-lessons before activities. More scaffolded types of help are provided when students experience difficulties during writing or speaking. There will be some instructional procedures that must be retired (such as having students memorize parts of speech), but many other options remain, such as imitation (contrastive and content alteration), modeling (with production), and sentence formation procedures (combining, paraphrasing, and expanding). In addition, there are some types of interactive scaffolding that have traditionally been used for preschool students (such as modeling, vertical structuring, expansion, and extension) that can also be used with school-age students.

Finally, the view advocated in this chapter may require a change in thinking about working on grammar. Focusing on the meanings encoded by grammatical structures is one essential change. Another is focusing on the ability to access and use a variety of grammatical forms. There are certainly other aspects of language that will be difficult for students with language impairments and these must be targeted. However, facility with grammar is necessary to express meaning and to participate in discourse. Grammatical intervention must be included in intervention along with vocabulary, discourse, and pragmatic intervention objectives.

## References

- Arwell, N. (1987). *In the middle: Writing, reading, and learning with adolescents*. Portsmouth, NH: Heinemann.
- Backus, O., & Beasley, J. (1951). *Speech therapy with children*. Boston: Houghton-Mifflin.
- Bellaire, S., Plante, E., & Swisher, L. (1994). Bound morpheme skills in the oral language of school-age, language-impaired children. *Journal of Communication Disorders, 27*, 265-279.
- Biber, D. (1988). *Variation across speech and writing*. Cambridge, MA: Cambridge University Press.
- Bishop, D. V. M. (1994). Grammatical errors in specific language impairment: Competence or performance limitations. *Applied Psycholinguistics, 15*, 507-550.
- Brinkley, E. (1998). Learning to use grammar with precision through editing conferences. In C. Weaver (Ed.), *Lessons to share: On teaching grammar in context* (pp. 120-136). Portsmouth, NH: Heinemann.
- Callies, R. (1998). When grammar matters. In C. Weaver (Ed.), *Lessons to share: On teaching grammar in context* (pp. 110-119). Portsmouth, NH: Heinemann.
- Carle, E. (1969). *The very hungry caterpillar*. New York: Penguin Books.
- Catts, H. W., Fey, M. E., Zhang, X., & Tombin, B. (1999). Language basis of reading and reading disabilities: Evidence from a longitudinal investigation. *Scientific Studies of Reading, 3*, 331-361.
- Catts, H. W., & Kamhi, A. G. (1999). *Language and reading disabilities*. Boston: Allyn and Bacon.
- Christenson, S., Thurlow, M. L., & Ysseldyke, J. E. (1989). Written language instruction for children with mild handicaps: Is there enough quantity to ensure quality? *Learning Disabilities Quarterly, 12*, 219-229.
- Cleave, P. L., & Fey, M. E. (1997). Two approaches to the facilitation of grammar in children with language impairments: Rationale and description. *American Journal of Speech-Language Pathology, 6*(1), 22-32.
- Connell, P. J. (1982). On training grammatical rules. *Language, Speech, and Hearing Services in Schools, 13*, 231-248.
- Connell, P. J. (1986). Teaching subjecthood to language-disordered children. *Journal of Speech and Hearing Research, 29*, 481-492.
- Connell, P. J. (1987). An effect of modeling and imitation teaching procedures on children with and without specific language impairment. *Journal of Speech and Hearing Research, 30*, 105-113.
- Donahue, M. (1987). Interactions between linguistic and pragmatic development in learning-disabled children: Three views of the state of the union. In S. Rosenberg (Ed.), *Advances in applied psycholinguistics. Volume 1: Disorders of first language development* (pp. 126-179). New York: Cambridge University Press.

- Eisenberg, S., Ukrainetz, T., Justice, L., Gillam, R., & Kaderavek, J. (2004, June). *Noun phrase elaboration in children's stories*. Poster session presented at the annual Symposium on Research in Child Language Disorders, Madison, WI.
- Elley, W. B. (1991). Acquiring literacy in a second language: The effect of book-based programs. *Language Learning, 41*, 375-411.
- Ellis Weismer, S., & Murray-Branch, J. (1989). Modeling versus modeling plus evoked production training: A comparison of two language intervention methods. *Journal of Speech and Hearing Disorders, 54*, 269-281.
- Evans, J., & Craig, H. (1992). Language sample collection and analysis: Interview compared to free play assessment contexts. *Journal of Speech and Hearing Research, 35*, 343-353.
- Fey, M. E. (1986). *Language intervention with young children*. Boston: Allyn and Bacon.
- Fey, M. E., & Proctor-Williams, K. (2000). Recasting, elicited imitation and modeling in grammar intervention for children with specific language impairments. In D. V. M. Bishop & L. Leonard (Eds.), *Speech and language impairments in children: Causes, characteristics, intervention, and outcome* (pp. 177-194). East Sussex, UK: Psychology Press.
- Fletcher, P. (1991). Evidence from syntax for language impairment. In J. Miller (Ed.), *Research on child language disorder: A decade of progress* (pp. 169-187). Austin, TX: Pro-Ed.
- Gerber, A. (1993). *Language-related learning disabilities: Their nature and treatment*. Baltimore: Brookes.
- Gillam, R., & Johnston, J. (1992). Spoken and written relationships in language/learning impaired and normally achieving school-age children. *Journal of Speech and Hearing Research, 35*, 1303-1315.
- Gillam, R. B., McFadden, T. U., & van Kleeck, A. (1995). Improving the narrative abilities of children with language disorders: Whole language and language skills approaches. In M. Fey, J. Windsor, & J. Reichle (Eds.), *Communication intervention for school-age children* (pp. 145-182). Baltimore: Brookes.
- Gould, B. W. (2001). Curricular strategies for written expression. In A. M. Bain, L. L. Bailer, & L. C. Moats (Eds.), *Written language disorders: Theory into practice* (2nd ed.; pp. 185-220). Austin, TX: Pro-Ed.
- Graham, S. (1992). Issues in handwriting instruction. *Focus on Exceptional Children, 25*(2), 1-14.
- Graham, S., & Harris, K. R. (1997). Whole language and process writing: Does one approach fit all? In J. W. Lloyd, E. J. Kame'enui, & D. Chard (Eds.), *Issues in educating students with disabilities* (pp. 239-260). Mahwah, NJ: Erlbaum.
- Graham, S., & Harris, K. R. (2002). The road less traveled: Prevention and intervention in written language. In K. G. Butler & E. R. Silliman (Eds.), *Speaking, reading and writing in children with language learning disabilities* (pp. 199-218). Mahwah, NJ: Erlbaum.

- Graham, S., & Miller, S. (1979). Spelling research and practice. *Focus on Exceptional Children*, 12, 1-16.
- Grauberg, E. (1988). 'Writing frames' for children with expressive language problems. *Child Language Teaching and Therapy*, 4, 125-141.
- Greenhalgh, K. S., & Strong, C. J. (2001). Literate language features in spoken narratives of children with typical language and children with language impairments. *Language, Speech, and Hearing Services in Schools*, 32, 114-125.
- Guest, J. (1982). *Ordinary people*. New York: Penguin.
- Hadley, P. (1998). Language sampling protocols for eliciting text-level discourse. *Language, Speech, and Hearing Services in Schools*, 29, 132-147.
- Hillocks, G. (1987). Synthesis of research on teaching writing. *Educational Leadership*, 44, 71-80.
- Ingham, R., Fletcher, P., Schletter, C., & Sinka, I. (1998). Resultative VPs and specific language impairment. *Language Acquisition*, 7, 87-111.
- Johnston, J. R. (1985). Fit, focus and functionality: An essay on early language intervention. *Child Language Teaching and Therapy*, 1, 125-134.
- Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology*, 80, 437-447.
- Kaderavek, J. N., Gillam, R. B., Ukrainetz, T. A., Justice, L. M., & Eisenberg, S. L. (in press). School-age children's self-assessment of oral narrative production. *Communication Disorders Quarterly*.
- Killgallon, D. (1998). Sentence composing: Notes on a new rhetoric. In C. Weaver (Ed.), *Lessons to share: On teaching grammar in context* (pp. 169-183). Portsmouth, NH: Heinemann.
- King, G. (2000). Verb complementation in language impaired school age children. In M. Aldridge (Ed.), *Child Language* (pp. 84-91). Clevedon, UK: Multilingual Matters.
- King, G., & Fletcher, P. (1993). Grammatical problems in school-age children with specific language impairment. *Clinical Linguistics and Phonetics*, 7, 339-352.
- Kirchner, D. M. (1991). Reciprocal book reading: A discourse-based intervention strategy for the child with atypical language development. In T. M. Gallagher (Ed.), *Pragmatics of language: Clinical practice issues* (pp. 307-332). San Diego, CA: Singular.
- Lee, L. L., Koenigsnecht, R. A., & Mulhern, S. T. (1974). *Interactive language development teaching*. Evanston, IL: Northwestern University Press.
- Leonard, L. B. (1975). Modeling as a clinical procedure in language training. *Language, Speech, and Hearing Services in Schools*, 6, 72-85.
- Leonard, L. B. (1998). *Children with specific language impairment*. Cambridge, MA: MIT Press.
- Leonard, L. B., & Fey, M. E. (1991). Facilitating grammatical development: The contribution of pragmatics. In T. M. Gallagher (Ed.), *Pragmatics of language: Clinical practice issues* (pp. 333-355). San Diego, CA: Singular.

- Loban, W. D. (1976). *Language development: Kindergarten through grade twelve* (Research Report No. 18). Urbana, IL: National Council of Teachers of English.
- Martin, B., Jr. (1967). *Brown bear, brown bear, what do you see?* New York: Harcourt Brace.
- McGill-Frazen, A., & Allington, R. L. (1991). Every child's right: Literacy. *The Reading Teacher*, 45, 86-90.
- McQuade, F. (1980). Examining a grammar course: The rationale and the result. *English Journal*, 69, 26-30.
- Mentis, M. (1994). Topic management in discourse: Assessment and intervention. *Topics in Language Disorders*, 14, 29-54.
- Miller, J. F. (1981). *Assessing language production in children*. Baltimore: University Park Press.
- Montgomery, J. K., & Kahn, N. L. (2003). You are going to be an author: Adolescent narratives as intervention. *Communication Disorders Quarterly*, 24, 143-152.
- Nelson, K. E. (1988). Towards a differentiated account of literacy development and ASL in deaf children. *Topics in Language Disorders*, 18, 73-88.
- Nelson, K. E., Welsh, J., Camarata, S. M., Burkovsky, L., & Camarata, M. (1995). Available input for language-impaired children and younger children of matched language levels. *First Language*, 15, 1-17.
- Nelson, N. W. (1995). Scaffolding in the secondary school: A tool for curriculum-based intervention. In D. F. Tibbits (Ed.), *Language intervention: Beyond the primary grades* (pp. 375-419). Austin, TX: Pro-Ed.
- Nelson, N. W. (2002). Assessing curriculum-based reading and writing samples. *Topics in Language Disorders*, 22, 35-59.
- Nelson, N. W., Van Meter, A. M., Chamberlain, D., & Bahr, C. M. (2001). The speech-language pathologist's role in a writing lab approach. *Seminars in Speech and Language*, 22, 209-219.
- Newman, P. W., Craghead, N. A., & Secord, W. A. (Eds.). (1985). *Assessment and remediation of articulatory and phonological disorders*. Columbus, OH: Merrill.
- Nippold, M. A. (1993). Developmental markers in adolescent language: Syntax, semantics, and pragmatics. *Language, Speech, and Hearing Services in Schools*, 24, 21-28.
- Nippold, M. A. (1998). *Later language development*. Austin, TX: Pro-Ed.
- O'Connor, A. (2004, May 25). Restless legs: Uncomfortable and overlooked. *The New York Times*, p. F10.
- O'Donnell, R. C., Griffen, W. J., & Norris, R. D. (1967). *Syntax of kindergarten and elementary school children: A transformational analysis*. (Research Report No. 8). Urbana, IL: National Council of Teachers of English.
- O'Hare, F. (1973). *Sentence combining: Improving student writing without formal instruction*. (Research Report No. 15.) Urbana, IL: National Council of Teachers of English.

- Paul, R. (2001). *Language disorders from infancy through adolescence* (2nd ed.). St. Louis, MO: Mosby.
- Penguin Books. (2005). *Mad libs*. New York: Author.
- Perera, K. (1986). Language acquisition and writing. In P. Fletcher & M. Garman (Eds.), *Language acquisition* (2nd ed.; pp. 494-518). Cambridge, UK: Cambridge University Press.
- Peterson, C., & McCabe, A. (1991). Linking children's connective use and narrative macrostructure. In A. McCabe, & C. Peterson (Eds.), *Developing narrative structure* (pp. 29-54). Mahwah, NJ: Erlbaum.
- Peterson, S. (1998). Teaching writing and grammar in context. In C. Weaver (Ed.), *Lessons to share: On teaching grammar in context* (pp. 67-94). Portsmouth, NH: Heinemann.
- Ratner, N. B., Parker, B., & Gardner, P. (1993). Joint book reading as a language scaffolding activity for communicatively impaired children. *Seminars in Speech and Language, 14*, 296-313.
- Rey, H. A. (1952). *Curious George rides a bike*. New York: Houghton Mifflin.
- Rice, M. L., & Bode, J. V. (1993). GAPS in the verb lexicons of children with specific language impairment. *First Language, 13*, 113-131.
- Rosen, L. M. (1998). Developing correctness in student writing: Alternatives to the error hunt. In C. Weaver (Ed.), *Lessons to share: On teaching grammar in context* (pp. 137-154). Portsmouth, NH: Heinemann.
- Rowe, S. (1998). Using mini-lessons to promote student revision. In C. Weaver (Ed.), *Lessons to share: On teaching grammar in context* (pp. 100-109). Portsmouth, NH: Heinemann.
- Scarborough, H. S. (2001). Connecting early language and literacy to later reading (dis)abilities: Theory and practice. In S. Neuman & D. Dickinson (Eds.), *Handbook for research in early literacy* (pp. 97-110). New York: Guilford Press.
- Schwartz, R. G., Chapman, K., Prelock, P. A., Terrell, B. Y., & Rowan, L. E. (1985). Facilitation of early syntax through discourse structure. *Journal of Child Language, 12*, 13-25.
- Scott, C. M. (1988). Spoken and written syntax. In M. A. Nippold (Ed.), *Later language development* (pp. 49-96). Austin, TX: Pro-Ed.
- Scott, C. M. (1995). A discourse approach to syntax teaching. In D. F. Tibbits (Ed.), *Language intervention: Beyond the primary grades* (pp. 435-463). Austin, TX: Pro-Ed.
- Scott, C. M. (2002). A fork in the road less traveled: Writing intervention based on language profile. In K. G. Butler & E. R. Silliman (Eds.), *Speaking, reading and writing in children with language learning disabilities* (pp. 219-237). Mahwah, NJ: Erlbaum.
- Scott, C. M., & Stokes, S. L. (1995). Measures of syntax in school-age children and adolescents. *Language, Speech, and Hearing Services in Schools, 26*, 309-319.

- Scott, C. M., & Windsor, J. (2000). General language performance measures in spoken and written narrative and expository discourse of school-age children with language learning disabilities. *Journal of Speech, Language, and Hearing Research, 43*, 324-399.
- Scott, C. M., & Windsor, J., & Gray, T. (2002, November). *A typology of grammatical error in older children with language learning disorders*. Paper presented at the American Speech-Language-Hearing Association Convention, Atlanta, GA.
- Simms, R., & Crump, W. (1983). Syntactic development in the language of learning disabled and normal students at the intermediate and secondary level. *Learning Disability Quarterly, 6*, 155-165.
- Smith, H. L., & Hull, G. A. (1985). Differential effects of sentence combining on college students who use particular structures with high and low frequencies. In D. A. Daiker, A. Kerek, & Morenberg, M. (Eds.), *Sentence combining: A rhetorical perspective* (pp. 17-32). Carbondale, IL: Southern Illinois University Press.
- Snowling, M., Bishop, D. V. M., & Stothard, S. E. (2000). Is preschool language impairment a risk factor for dyslexia in adolescence? *Journal of Child Psychology and Psychiatry and Allied Disciplines, 41*, 587-600.
- Steinhauer, J. (2005, May 22), Maybe preschool is the problem, *The New York Times*, pp. 1, 4.
- Stothard, S. E., Snowling, M., Bishop, D. V. M., Chipchase, B. B., & Kaplan, C. A. (1998). Language-impaired preschoolers: A follow-up into adolescence. *Journal of Speech, Language, and Hearing Research, 41*, 407-418.
- Strong, W. (1986). *Creative approaches to sentence combining*. Urbana, IL: ERIC Clearinghouse on Reading and Composition Skills and the National Conference on Research in English.
- Strong, C. J., & Strong, W. (1999). *Strong rhythms and rhymes: Language and literacy development through sentence combining*. Eau Claire, WI: Thinking Publications.
- Sturm, J., & Koppenhaver, D. A. (2003). Supporting writing development in adolescents with developmental disabilities. *Topics in Language Disorders, 20*, 73-92.
- Temple, C., & Gillett, J. W. (1984). *Language arts: Learning processes and teaching practices*. Austin, TX: Pro-Ed.
- Thordardottir, E. T., & Weismer, S. E. (2001a). High frequency verb diversity in the spontaneous speech of school-age children with specific language impairment. *International Journal of Language and Communication Disorders, 36*, 221-244.
- Thordardottir, E. T., & Weismer, S. E. (2001b). Verb argument structure weakness in specific language impairment in relation to age and utterance length. *Clinical Linguistics and Phonetics, 16*, 233-250.
- Tompkins, G. E., & Weheler, M. (1983). What will happen next? Using predictable books with young children. *The Reading Teacher, 36*, 489-502.

- Wallach, G. P., & Butler, K. G. (1994). *Language learning disabilities in school-age children and adolescents*. New York: Merrill.
- Weaver, C. (1996). *Teaching grammar in context*. Portsmouth, NH: Boynton/Cook Publishers.
- Westby, C. E., & Clauser, P. S. (1999). The right stuff for writing: Assessing and facilitating written language. In H. W. Catts & A. G. Kamhi (Eds.), *Language and Reading Disabilities* (pp. 259–324). Boston: Allyn and Bacon.
- Wiig, E. H., & Semel, E. M. (1980). *Language assessment and intervention for the learning disabled*. Columbus, OH: Merrill.
- Windsor, J., Scott, C. M., & Street, C. K. (2000). Verb and noun morphology in the spoken and written language of children with language learning disabilities. *Journal of Speech, Language, and Hearing Research*, 43, 1322–1336.
- Wong, B. Y. L. (2000). Writing strategy instruction for expository essays for adolescents with and without learning disabilities. *Topics in Language Disorders*, 20, 29–44.