# Syntax Development in the School-Age Years: Implications for Assessment and Intervention

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Teachers and clinicians who are confident about how to help students with dyslexia improve reading decoding skills may be less certain about how to help those same students improve their oral and written syntax and grammar. This article provides a brief overview of what teachers and clinicians (referred to collectively here as "instructors") need to know and might do to foster students' syntax and grammatical skills for comprehending and formulating grade-level sentences and discourse.

## Foundations for the Development of Syntax and Grammar

**What do instructors need to know to help students improve their syntax and grammar?**

As a general rule, knowing about normal development provides a good blueprint for deciding what to target for children with special needs. Instructors need specific knowledge and skills for assessing and describing a particular student's patterns of abilities and difficulties. Examiners can use developmentally sensitive formal and informal assessment techniques to describe three overlapping levels within what Vygotsky (1978) referred to as the zone of proximal development. These are 1) aspects of language that children know and related skills they can apply automatically (i.e., consistently and fluently) in everyday contexts; 2) aspects of language children know only partially and related skills they can demonstrate only under certain supportive conditions, but not reliably or automatically; and 3) aspects of language children have not yet learned and related skills they are unable to demonstrate, no matter how optimal the conditions. It is the middle level, which constitutes the student's developing edge of competence, that expert instructors identify as the best point for focusing initial intervention efforts.

To explore how children learn complex syntax and to monitor their ongoing development, it is necessary 1) to consider the cognitive-linguistic demands that grammatically complex sentences place on children's systems, 2) to understand the developmental progression of complex syntax, and 3) to recognize signs that students with dyslexia need targeted intervention in syntax. With this background knowledge, instructors can better determine how to help students improve sentence-level skills.

**What is the essence of complex sentence formulation and comprehension?**

To understand the demands of complex syntax, whether in listening, reading, speaking, or writing, one must be able to analyze forms of syntactic complexity. The essence of demonstrating skill with grammatical complexity in speaking or writing is to incorporate more than one sentence-level proposition into a single sentence. In a reciprocal fashion, the essence of demonstrating skill with grammatical complexity when reading or listening is for students to apply their grammatical knowledge to unpack the components of a complex sentence. The only way to observe the success of this comprehension process is to ask students to act out, paraphrase, or demonstrate in some other way what they understand about the relationships among the individual components (i.e., clausal propositions) of a complex sentence.

A *proposition* equates to the basic meaning of a simple sentence. Grammatically, a basic sentence incorporates at least a subject and a verb. Semantically, the subject may be an actor, agent, experiencer, or the person being addressed by the speaker, in which case the subject may be understood. A verb phrase describes actions, experiences, or intentions of the subject and provides information about temporal relationships, such as the present progressive, "She is help*ing*" versus the past perfect, "She *had* helped," as well as mood, such as "He *would have helped* if he *could have*." Other sentences might require additional elements to complete the meaning of the basic proposition. Some verbs semantically require both an object and recipient of an object, such as "He gave the *princess* the *secret code*." Others require subject attributes or identities, such as "He is so *brave*" or "She is *a superhero*."

Although grammatical taxonomies differ, sentences generally are categorized as syntactically complex if they include more than one verb phrase within an integrated syntactic unit that cannot be further subdivided into separate stand-alone units (e.g., "His eyes sparkled watching the princess read the secret code"). To analyze complex sentences in a sample of student discourse, division strategies are needed that can make it possible to compare sentences across samples and students. That is because human beings are capable of producing infinitely long sentences, simply by stringing together one clause after another using the fairly simplistic process of conjoining main clauses with coordinating conjunctions, *and, but, or,* and *so*. By doing so, humans are capable of producing sentences that are *interminable*, sometimes called *run-ons* (e.g., "He was so brave and he gave the princess the secret code and she was a superhero"). Recognizing this, Hunt (1970) defined the unit of analysis for school-age students' literate language as the *T-unit* (standing for "minimal *terminable* unit"). Analysis of syntactic structure within a student's composition generally starts with a division of the student's productive language into T-units. Although Hunt defined a T-unit as one main clause plus anything embedded in it or subordinated to it, fragments (i.e., not qualifying as a main clause with a subject and a verb, such as "the beautiful princess") also may be marked off to develop a clear picture of a student's syntactic capabilities.

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The following example is a sentence constructed with three conjoined T-units and a fragment (boundaries marked with "/"): "The monster was chasing them / but they found a place to hide / so the monster was mad. / Too bad! /." An example of how these same three propositional content units might be combined into a single T-unit is "Although the monster was chasing them, they found a place to hide, which made the monster mad. /Too bad!/" The first example has four separate T-units (including the fragment) measuring 5, 7, 4, and 2 words in length, with a mean of 4.5 words per T-unit. The second example starts with a 17-word T-unit. Longer, well-formed T-units show that students are able to produce more grammatically complex syntax, because embedding and/or subordination of clauses increases T-unit length, whereas conjoining of independent clauses does not. When averaged with the two-word fragment that follows, the combined Mean Length of T-units (MLTU) of the more complex sentence pair is still 9.5. Of course, MLTU computations generally would be based on a longer sample.

Table 1 provides an outline of the multiple ways that students can make sentences more complex. The examples in this table are drawn from responses to a sentence-combining task that is used to assess written expression on the *Test of Integrated Language and Literacy Skills* (TILLS, standardization version 2.0; Nelson, Helm-Estabrooks, Hotz, & Plante, 2011), which is currently being standardized by the author and colleagues. The written expression task is paired with a reading fluency task in which students read a set of short "facts" that tell a story (one of four age-appropriate stories that advance in length and vocabulary levels). Then students are shown another set of facts and a model of how the facts might be combined to sound more interesting and less choppy. Finally, students are asked to put the facts for their story together when they rewrite it so their story sounds better too. Segments of stories produced under these conditions appear in Table 1.

In general, embedding or subordinating dependent clauses, sometimes one within another, is considered an indicator of a higher level of syntactic ability than coordinating independent clauses or embedding phrases using nonfinite verbs. The TILLS looks for evidence that students are incorporating all the content units given in the original facts and measures the ratio of content units to T-units, which is called the "sentence-combining score." Simply copying all the facts in a story would result in a sentence-combining score of 1.0. The more content units students pack into a single T-unit, the higher their sentence-combining scores rise above 1.0. Examiners also calculate the percentage of words produced without error. In addition to spelling errors, word-level errors can include omitted words, omitted morphemes, or problems with verb inflections that make a sentence ungrammatical.

**What is the developmental progression of complex syntax?**

In the case of complex syntax, the developmental pathway is neither straight nor clear. It could be considered bad news that there is no clear curricular sequence to follow that would lead one to assess or target one increasingly more complex structure after another in intervention. On the other hand, it is good news that there is no standard progression because it is difficult to go wrong in selecting syntactic forms to target in assessment and intervention. Targeted forms, therefore, can be selected in order to help students communicate their meaning rather than to practice the use of a certain form.

Evidence from normal development indicates that toddlers begin to combine simple sentences into complex sentences almost as soon as they begin to combine two and three words syntactically (Barako Arndt & Schuele, 2013). The early stages of language development are fairly predictable, starting with two-word combinations, then three-word, and then incorporating Brown's (1973) 14 morphemes (i.e., verb inflections *-ing*, *-ed*, and *-s*, the prepositions *in* and *on*, plurals, possessives, forms of *to be*, and articles) to expand noun and verb phrases. By that point, most children are quite competent. Predicting language development beyond age 3 to 4 years, however, is not so easy.

We know that children's sentences grow longer, but they may do so in many ways. Early embedding involves the use of forms such as semi-auxiliaries (e.g., *gonna, wanna*) to make one propositional unit a phrasal element of another (e.g., "I wanna *go with you*"). Other early developing forms involve embedding infinitives as object complements (e.g., "He knows *what to do*"). Clausal coordination (e.g., "The water was cold, but she jumped in"), which involves coordination of two T-units with one of the five coordinating conjunctions (i.e., *and, but, or, so, for*), generally precedes subordination of one clause to another within a single T-unit (e.g., "Although the water was cold, she jumped in"). It also is expected that representations of concrete relationships precede abstract ones when learning how to formulate (or comprehend) sentences with dependent clauses. Barako Arndt and Schuele (2013) noted that subordinate clauses may appear early in preschoolers' language as answers to questions about causality (e.g., *because it fell down*) or temporal relationships (e.g., *after I color it*) before they are used in stand-alone statements as subordinate clauses to main clauses.

Although most complex forms are present in the typical child's oral language inventory by kindergarten, it is mastery of the fine points and flexibility in paraphrasing complex meanings in literate language that are the hallmark of schooling. If one accepts the assumption that children can comprehend forms they can formulate, this means that few syntactic structures should be out of reach to most students on the basis of syntax alone. Difficult vocabulary and high-level concepts could make literate language difficult to understand, nevertheless, because context and general cognitive understandings of relationships may override formal structure in determining difficulty for a particular child in producing and comprehending complex syntactic forms.

Assessment also may be challenging because of the optionality of complexity. As Schuele (2013) noted, "A child can choose to use a particular complex structure or not. So, if a

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**TABLE 1. Syntactic Forms with Examples Produced by Children in a Written Response to a Sentence-Combining Task[a]**

| Structure | Input Units | Response of a Student with Typical Language/Literacy Development |
|---|---|---|
| **Main (independent) clause:** Contains a subject + verb phrase and can stand alone. (Together with anything embedded in it or subordinated to it, it is called a single T-unit.) | The class has a pet.<br>It is a hamster.<br>(from "The Class Pet") | The class got a pet. It is a hamster.<br>[2/2 content units; 2 independent clauses; 2 simple T-units] |
| **Embedded phrase:** Incorporation of information from one proposition into another.<br>• Using an elaborated noun phrase or prepositional phrase (no embedded verb) | Our school was closed.<br>It was last Wednesday.<br>It was a school day.<br>It was closed all day.<br>(from "When the School Closed") | *Last Wednesday* our school was closed *all day on a school day*.<br>[4/4 content units; 1 main clause; 1 simple T-unit (because there is only 1 verb phrase)] |
| • Using an **infinitive** (i.e., a "to verb" phrase) to extend the main verb's meaning (e.g., *I want to run; Let's go*) | The janitor came in at 6 a.m.<br>He opened the school.<br>He smelled something.<br>(from "When the School Closed") | When the janitor came at six o'clock am *to open the school*, he smelled something.<br>[3/3 content units; 1 complex T-unit (based on the embedded infinitive as well as the subordinate clause)] |
| • Using a **participle**, which is a verb functioning as an adjective (e.g., *I saw him running; I found the plant, fallen over*) | He looked in the cafeteria.<br>He found the skunks.<br>There were two.<br>They were eating cookies.<br>(from "When the School Closed") | He found two, hungry, skunks *eating in the cafeteria*.<br>[4/4 content units; 1 complex T-unit (based on the embedded participial verb phrase)] |
| • Using a **gerund**, which is a verb functioning as a noun (e.g., *I like running*) | He opened the doors.<br>He left them open.<br>He searched.<br>He looked in the library.<br>He looked in the cafeteria.<br>(from "When the School Closed") | He started *searching in the cafeteria*, opened the doors and left them open.<br>[5/5 content units; 1 complex T-unit (based on the gerund, *searching*, which is the object of the verb, *started*)] |
| **Coordinated clause**: Main clause that is joined to another with one of the **coordinating conjunctions** (*and, but, or, so, for*); when more than 2 clauses are coordinated, the sentence could be coded as **run-on**. | She wants to be a clown.<br>She came Monday.<br>(from "The Principal's Daughter") | She always wanted to be a clown / so she came on Monday. /<br>[2/2 content units; 2 T-units (the first could be considered complex due to the embedded infinitival clause; the second is simple; note that there is no actual causal relationship between these 2 independent clauses and the infinitive was in the model, but the main verb was modified)] |
| **Dependent clause** (3 types):<br>• **Relative clause:** Functions as an adjective, beginning with a relative pronoun (e.g., *who, whose, whom, that, which*) to modify a noun. | Soldiers came there.<br>There were hundreds.<br>Many were treated.<br>Many died.<br>They were buried.<br>The grave yard was still there.<br>It was behind the building.<br>(from "The Building") | Many soldiers *who had died* were buried in the graveyard *that was almost hidden behind the building*.<br>[6/7 content units; 1 complex T-unit (based on the student forming 2 relative clauses out of the kernel sentences, 1 to modify *soldiers*, and the other to modify *graveyard*)] |
| • **Subordinate clause:** Functions as an adverb, beginning with a subordinate conjunction (e.g., *after, when, while because, so that, if… then*) and providing information about temporal, locational, causal, or other relationships. | The janitor came in at 6 a.m.<br>He opened the school.<br>He smelled something.<br>(from "When the School Closed") | *When the janitor came at six o'clock am to open the school*, he smelled something.<br>[3/3 content units; 1 complex T-unit (this is the same example as for the infinitive, which is embedded in a subordinate clause, adding a layer of complexity)] |
| • **Nominal clause:** Functions as a noun, occurring at the beginning of the sentence, as the subject, or at the end, as the object or complement; may be introduced by an indefinite pronoun (e.g., *what, that, who*). | Some people knew.<br>It was used in a war.<br>It was long ago.<br>The building was a hospital.<br>(from "The Building") | They knew *that it was a hospital* and *that it was used in a war*.<br>[3/4 content units; 1 complex T-unit (even though *and* is used in this sentence to conjoin 2 clauses, it does not coordinate 2 independent clauses, but 2 parts of a nominal clause that collectively are the object of the verb, *knew*) ] |

Note. Excerpts in this table are drawn from the four stories designed for students at the following ages: "The Class Pet" (ages 6;0–7;11), "The Principal's Daughter" (ages 8;0–10;11), "When the School Closed" (ages 11;0–13;11), and "The Building" (ages 14;0–18;11). They are shared with permission of Paul H. Brookes but are not to be reproduced or used for other purposes.

[a]The Written Expression subtest on a new Test of Integrated Language and Literacy Skills (TILLS, standardization version 2.0; Nelson, Helm-Estabrooks, Hotz, & Plante, 2011, ©2011 by Paul H. Brookes).

**TABLE 2. Potential Signs of Difficulty in Students with Dyslexia and Other Language-Learning Disabilities**

| Signs of Difficulty | Input Units | Response of Student with Language-Learning Disability | Analysis of Student's Response |
|---|---|---|---|
| Difficulty with writing fluency | *The class has a pet.*<br>*It is a hamster.*[a]<br>The hamster has spots.<br>Some are brown.<br>Some are white. | The hamster has spots. / some ara brown / som are white. /<br><br>[Student age 7;10; 3/16 content units; 3 T-units] | • Student copied 3 of 16 content units, with 2 spelling errors out of 10 words.<br>• Did not combine any content units so sentence-combining score is 1.0 (z-score of -1.03 compared to mean for 7-year-olds of 1.47 [SD .46]) |
| Difficulty with basic syntactic units<br><br>(may occur in combination with strengths) | *The class has a pet.*<br>*It is a hamster.*<br>The hamster has spots.<br>Some are brown.<br>Some are white.<br>*It got out.*<br>It was one day last week.<br>The cage was open.<br>The door was open.<br>The children looked.<br>*The children found him.*<br>They put him back.<br>They put him in the cage.<br>They closed the door.<br>*He found a corner.*<br>*He went to sleep.*<br><br>(From: "The Class Pet") | *THe class Haves a pet.* / it is a Hamst / but it got out of tHe cage. / THe class now tHe door cage / *THey noiw tHat tHey lock tHe cage.* / *THe* cHildren found Him in the *conren* of the wall sleeping./<br><br>[Student age 7;11; 6/16 content units; 6 T-units] | In spite of some complex structures (e.g., coordinated conjunction, *but*; participle, *sleeping*; and object nominal clause, *that they lock the cage*, child demonstrates problems at other basic levels, including:<br>• Noun-verb agreement (*The class haves a pet*) and past-tense marking (*They know* that they *lock* the cage)<br>• Omission of content (only 6/16 included)<br>• Fragment (*The class know the door cage*)<br>• Word structure and orthographic issues<br>  ◦ *Conren*/corner<br>  ◦ H/h<br>  ◦ *Noiw*/know and *now*/know<br>• Generation of facts not in the input stimuli, suggesting incomplete comprehension (*They know that they lock the cage; The children found him in the conren of the wall sleeping*)<br>• Low sentence combining score (a score of 1.0 indicates a ratio of 1 content unit per T-unit and could indicate copying; -1.03 z-score compared to mean for 7-year-olds of 1.47 [SD .46]) |
| Omitted or minimal content, including omitted sentence constituents | The principal has a daughter.<br>*Her name is Sara.*<br>She wants to be a clown.<br>*She came Monday.*<br>*She came to our school.*<br>She had on makeup.<br>*She had on a wig.*<br>*A ball was on her nose.*<br>It was red.<br>It was big.<br>She looked scary.<br>*She walked into a class.*<br>The children were young.<br>The children saw her.<br>*Some children cried.*<br><br>[This story includes 4 other content units.] | They was a gile named Sara. / She cam to school. / A Ball nose and a wig on / and she cam to school on Monday. / And she wocht in the cas / and sum cend crid /<br><br>[Student age 9;13; 7/20 content units; 6 T-units; 8 error words; 34 total words] | Content limitations might reflect a trade-off based on effort or concerns about the requirements of composition.<br>• This student did show some combining using syntax ("she cam to school on Monday"), as well as a tendency to run-ons.<br>• She, however, omitted key sentence constituents ("*she *had A Ball nose and a wig on"), leaving an agrammatical fragment, not for effect.<br>• Did not show awareness of past-tense *-ed* ending in print, although represented the sounds from oral language in "wocht/walked" and "crid/cried"<br>• Her sentence combining score of 1.17 yielded a z-score -.87 standard deviations below the mean of 1.61 for typically developing 9-year-olds.<br>• Her percentage of words correct (76.5%), however, was 6.3 standard deviations below the mean for 9-year-olds. |
| Misplaced clauses | *He looked in the cafeteria.*<br>*He found the skunks.*<br>*There were two.*<br>*They were eating cookies.*<br><br>(From: "When the School Closed") | He looked in the cafeteria and found two skunks that were eating cookies *and very hungry*.<br><br>[Student age 11;2; 4/4 content units in this excerpt; 1 T-unit; there was more to this response not shown here] | The relative clause "that were eating cookies" is a strength, but the coordinated *very hungry* component is not in the input content (although it could be inferred); rather, it is tacked on in an awkward sequence, when it might have been incorporated into the noun phrase "two very hungry skunks" or subordinated to the relative clause, as in, "eating cookies because they were very hungry." |

**TABLE 2 (continued)**

| Signs of Difficulty | Input Units | Response of Student with Language-Learning Disability | Analysis of Student's Response |
|---|---|---|---|
| Omitted morphological inflections and function words | *He opened the doors.*<br>*He left them open.*<br>*He searched.*<br>He looked in the library.<br>*He looked in the cafeteria.*<br>*He found the skunks.*<br>*There were two.*<br>*They were eating cookies.*<br>They had eaten many.<br>They looked full.<br>*He called animal control.*<br>*He called right away.*<br>*The workers came.*<br>*They took the skunks.*<br>*They let them go.*<br>*It was in the woods.*<br><br>(From: "When the School Closed") | He open*ed the doors *and left them open / then he searched. / He looked in the cafeteria and found two skunks that were eating cookies. / Then *he called the animal control department right *away / then the worker came took the skunks *and let them go in the woods /<br><br>[Student age 12;2; 13/16 content units; 5 T-units; 43 words; 4 error words] | This sample reflects:<br>• Multiple word-level errors involving omissions of content units, inflectional morphemes, conjunctions, and pronouns.<br>• Strengths in forming compound verb phrases ("looked in the cafeteria and found") although missing conjunctions elsewhere make some of this questionable.<br>• His sentence combining score of 2.6 was above the mean of 2.0 for 12-year-olds, but his z-score of -2.2 for percentage of words correct (93%) was more than 2 standard deviations below the mean of 98.3% for 12-year-olds.<br>• Further diagnostic assessment using curricular contexts would be necessary to figure out the degree to which oral language (such as dialectal influence), effort trade-offs, lack of proofreading ability, or executive strategy deficits could be contributing to the errors. |
| Run-on sentences<br><br>(possibly with omitted constituents) | [*See above.*] | they so a skunk / *and* they whint to go eat cookies / *and* they wher still hungry / *and* they whint to the woods. /<br><br>[Student age 11;5; 4/16 content units; 4 T-units] | • Run-on sentences with omitted content, unclear pronoun referents, and spelling concerns.<br>• 3 T-units were conjoined with the coordinating conjunction *and*<br>• Sentence-combining score of 1.0 was -1.93 standard deviations below the mean of 1.91 [SD = .47] for 11-year-olds.<br>• Some of these issues may be due to word-level problems and trade-offs that might be uncovered in further dynamic assessment. |

Note. The excerpts reported in this table are stimuli in a formal Test of Integrated Language and Literacy Skills (TILLS, standardization version 2.0; Nelson, Helm-Estabrooks, Hotz, & Plante, 2011), © 2011 by Paul H. Brookes. They are shared with permission of Paul H. Brookes, but are not to be reproduced or used for other purposes.

[a]Italics indicate content units apparent in the student's response.

*Omitted element that was not present in the student's written expression.

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child does not produce a particular complex syntax structure in a particular language sample, one cannot conclude that the child cannot produce the structure, only that the child did not" (p. 4).

As children move into later elementary and middle school, other factors come into play. Recent research has emphasized how different content-area disciplines may be more likely to employ particular syntactic forms. The language of science, for example, incorporates a high rate of nominal sentences in subject position, such as "This uncontrolled dividing of cells can result from the failure to produce certain enzymes…," (from Fang, 2012, p. 25). To explain transitions in contextual demands, Halliday (2004) proposed a model of the three critical movements in children's language development: from 1 to 2 years, children move from babbling and baby-talk to actual language production; from 4 to 6 years, "children move from everyday spoken language to the grammar of literacy" (p. 21); and from 9 to 13 years, "children move from the grammar of written language to the language of content areas" (p. 21).

**What might signal a need for targeting expressive morphosyntax in students with dyslexia?**

Problems with morphosyntax are not typically viewed as a cardinal feature in dyslexia, which means that they may be overlooked when they do occur. As illustrated in Table 2, the smaller units of grammatically encoded meaning, such as bound morphemes, can present particular difficulty for students with dyslexia when they read and write. The examples in Table 2 were generated by students with identified language-literacy disabilities with varying degrees of involvement of spoken and written language. We were somewhat surprised, however, that even participants with symptoms of "pure" dyslexia (i.e., specific problems in reading, not accompanied by oral language impairment eligibility) seemed to be showing high rates word-level grammatical inflection difficulties beyond spelling. This conflicts with a view that morphosyntax presents little difficulty for students with dyslexia when they are learning to talk and comprehend oral language (Bishop & Snowling, 2004; Catts & Kamhi, 2005; Silliman & Berninger, 2011). Such

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problems appear to represent an aspect of dyslexia that has been less recognized, although not unrecognized.

Scarborough (1990) thought language difficulties could be detected earlier for children with dyslexia than typically assumed. She measured early syntactic development for preschool-age children in families with a history of dyslexia by using an Index of Productive Syntax that involves counting the number of different forms that appear in at least two unique productions by a child within a naturalistic language sample (out of a list of 56 early developing syntactic forms). Among other findings, Scarborough's results showed that early syntactic proficiency in the preschool years could account for unique variance in second grade reading for children who later developed reading problems. Similarly, Rispens, Roeleven, and Koster (2004) found that eight-year-old children with dyslexia had significantly more difficulty on an auditory subject-verb grammaticality agreement task than age- and reading-matched controls. Altmann, Lombardino, and Puranik (2008) found that syntactic production deficits extend into adulthood for individuals with dyslexia, particularly involving irregular word forms or past participles (e.g., "Mary had hidden the candy").

As noted, MLTU is one way of measuring the syntactic complexity of students' written compositions; however, it has not been found to be uniformly sensitive to developmental advances and disorders. Scott and Windsor (2000) found that MLTU was significantly lower for 11-year-old students with language-learning disabilities than for age- or language-matched controls, and that grammatical error rates were higher as well. Nelson and Van Meter (2007) found a significant developmental increase in MLTU in students' written narratives, with a marked increase at grade 3 compared to earlier grades. Although lower MLTU did not differentiate samples written by students with disabilities, the higher proportion of simple incorrect sentences did differentiate these students.

One might ask whether students who are good at expressive uses of complex syntax, are better at comprehending complex sentences as well. The answer has implications for interventions that focus on written expression as a possible means for improving syntactic abilities that could positively influence reading comprehension as well as writing. To answer this question, Hebert, Gillespie, and Graham (2013) conducted a meta-analysis of 19 studies that investigated reciprocal relations between written composition and reading comprehension. The studies compared comprehension techniques, such as answering questions and taking notes, with writing techniques, such as summary writing and extended writing activities. In most cases, no significant differences were found between the techniques, but in one study that used free recall as an outcome measure, summary writing enhanced reading comprehension better than question answering; in another, extended writing enhanced reading comprehension better than question answering when extended writing was used as the comprehension measure.

**How can instructors help students improve their sentence-writing skills?**

Returning to points made in the introductory section of this article, instruction aimed at improving students' written syntactic capabilities can be designed to help students stretch and solidify abilities that are less firmly in place and to close gaps between what they do currently and need to do better. Although there are a number of competing theories about how grammatical skills develop, at least some of the impetus for grammatical development comes from children needing more complex language forms to convey more complex ideas to a known or imagined audience. It is this nexus of meaning, intention, and form that instructors can exploit when they want to foster children's complex language development in the school-age years.

Instructors can achieve these aims in the context of classroom-based writing lab activities (Nelson, Bahr, & Van Meter, 2004) or they can work with students on their written compositions in individual or small group settings. In any product-oriented writing activity, scaffolding of complex syntax can occur during multiple stages of the writing process. In the case of expository writing, students need to do background reading that targets a purpose. As an example, this might involve seeking sources to fill in a planning template for a report on animal migration. When students identify a selection of text that can help them answer what time of year whales migrate, for example, they need to read the original source, then close the book or leave the computer screen and rephrase what they read in their own words. This provides an opportunity for instructors to see what the student can already do and what he or she needs to learn to do differently. Then mini-lessons with direct instruction, or scaffolding can follow to ensure that the student can decompose and then reformulate the complex syntax of the original source.

In the drafting stage of the writing process, instructors may scaffold students to compose sentences orally first. As the children speak, instructors can listen to the sentences, point out what is said well and makes sense, and also ask questions strategically about problematic areas. The goal is to get children to generate additional causal, temporal, or logical elements to clarify and elaborate the meanings of basic sentences in support of an immediate communicative purpose.

The editing stage presents rich opportunities to work on morphosyntactic issues. Instructors can scaffold modifications to simple forms, helping students make sentences sound better and work better to achieve their purpose. Word processors can be used to insert more elaborative phrases and clauses or move them around. For example, if a student shows an overuse of *and* to combine simple sentences, the instructor might help the student to set a goal to use *and* only where it really fits and to use richer ways of combining ideas elsewhere. This instruction could start by having the student highlight all the uses of *and*. Then, with scaffolding, the student might be led to consider ways to combine ideas other than with *and*, taking two clauses at a time. Some students generate alternative forms in the act of explaining a relationship to the instructor. Capturing these forms and commenting on what is special about them can increase students' motivation for saying more.

Capitalizing on the appreciative audience principle, teachers and language specialists thus can show children how language form (both at the word and sentence level) supports meaning and purpose. If children with dyslexia are shown how, they can learn to apply this knowledge by checking that the sentences they are formulating sound right when others read them, and they can make sure that sentences say what the student intended to say. Without such scaffolding, students with dyslexia may be less likely to reread their own writing, and thus, may be unlikely to make proofreading corrections or substantive additions.

## Summary and Conclusions

People need to read and write extensively to get better at it, and this is especially true for students with dyslexia. No one will waste much effort in learning to read, particularly if it is difficult for him or her, if he or she does not first experience the power of learning or the pleasure of self-revelation found in reading books and through appreciative audiences for their writing. Intervention teams for students with dyslexia have to make difficult decisions about the best ways to balance accommodations—such as listening to recorded books and using technology or employing other people to scribe for them. No one formula can apply to all students. Yet, all may benefit from implementing goals to develop independent reading and writing abilities that include a focus on syntactic ability as well as word-level skills.

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