PERSPECTIVES
ON LANGUAGE AND LITERACY

Syntax Comes First

Understanding How Syntax Is The Backbone of Comprehension

PART 2

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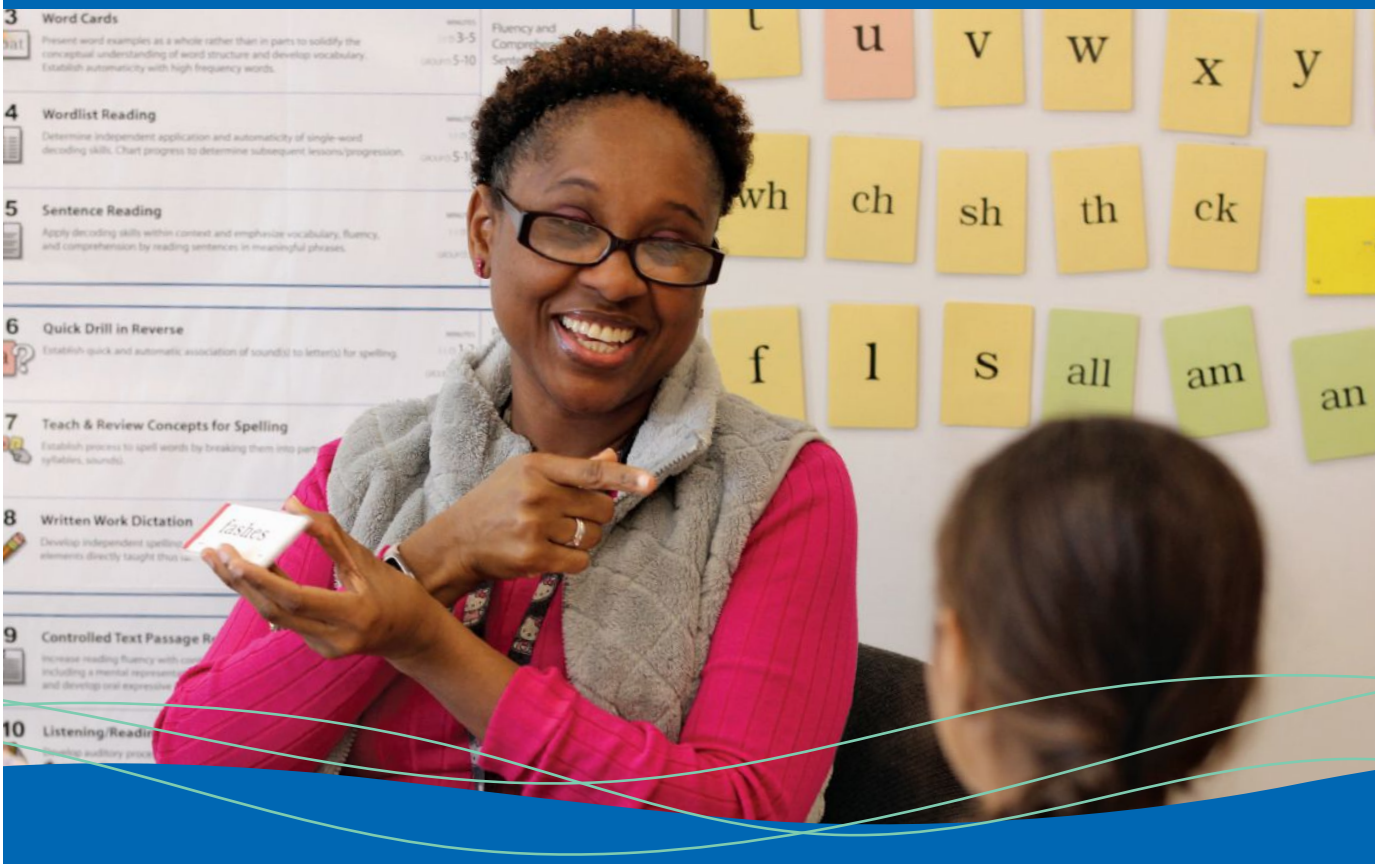

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PERSPECTIVES

ON LANGUAGE AND LITERACY

A Publication of the International Dyslexia Association

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Syntax Comes First

Understanding How Syntax Is The Backbone of Comprehension

The International Dyslexia Association (IDA) is a 501(c)(3) non-profit, scientific and educational organization dedicated exclusively to the study and treatment of the specific language disability known as dyslexia. We have been serving individuals with dyslexia, their families, and professionals in the field for over 75 years. IDA was first established to continue the pioneering work of Samuel T. Orton, M.D., in the study and treatment of dyslexia.

IDA members include people with dyslexia and their families, educators, diagnosticians, physicians, and other professionals in the field. IDA's home office, 39 branches in the United States and Canada, and 12 Global Network organizations provide educator training, publications, information, and support to help struggling readers around the world. IDA's Annual Conference attracts thousands of outstanding researchers, clinicians, parents, teachers, psychologists, educational therapists, and people with dyslexia.

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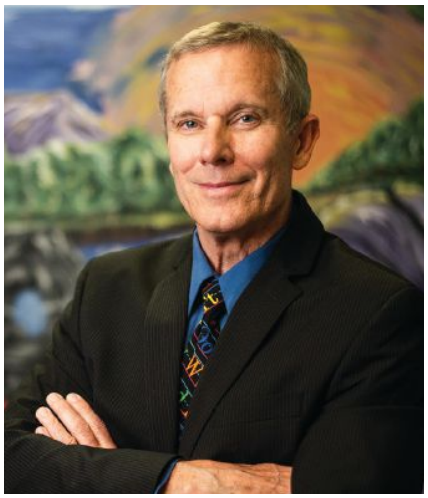
STRUCTURED LITERACY

Syntax Matters for Language and Literacy



This issue of *Perspectives on Language and Literacy* continues our exciting exploration of syntax. Theme editors Julie Van Dyke and Kelly Powell-Smith further the case that syntax comes first when composing meaning at the sentence level and therefore can be understood as the backbone of language and reading comprehension. Their evidence comes, in part, from technologies such as functional magnetic resonance imaging (fMRI) and magnetoencephalography (MEG) that have allowed neuroscientists to examine what brain areas are being activated during language processing. This evidence provides us with the internal logic of how the brain processes and initiates the various aspects of language. Syntax, akin to firmware, is a genetically linked and neurologically based ability to process, understand, and engage in language, a uniquely human endeavor.

The articles in this issue provide additional information regarding how people comprehend language by making predictions about the meaning of utterances and text in real-time, modifying their analysis incrementally, as they encounter more language. The brain is making predictions about what aspect of a sentence is likely to be next and these predictions change on the fly as those predictions are confirmed or disconfirmed. Critical to this prediction-based processing is that the syntactical structure encountered in written text is more complex than spoken language. This insight can inform explicit syntax instruction with text to develop good reading comprehension ability.

Syntax Comes First: Understanding How Syntax is the Backbone of Comprehension (Part 2) also furthers our understanding of syntax in ways that can guide educators in their development and delivery of instruction. This issue provides additional resources, including evaluation tools, that teachers can use to help students become more proficient in their syntactical skills en route to becoming more competent readers.

The International Dyslexia Association has long been a leader in emphasizing the singular importance of developing accurate and automatic word recognition for emerging and struggling readers. These issues of *Perspectives* about syntax serve as a call to action to also embrace the Science of Language Comprehension to develop skilled readers. Based on the evidence in these issues, proficient reading requires knowledge of syntax; the more that we understand its contribution, the more we can help all readers to become competent ones.

David P. Hurford, Ph.D.
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CORRECTION

A change to Figure 3 on page 55 was made in the article, Data-Based Decision-Making within the MTSS Model: Connecting WHAT Students Need with HOW to Teach in the Fall 2024 Issue. Click **here** to see the article.

Photo illustration: S.Forhan/Freepik

Syntax Comes First

Understanding How Syntax Is The Backbone of Comprehension – Part 2

By Julie A. Van Dyke and Kelly A. Powell-Smith

We are pleased to present Part 2 of our double issue entitled "Syntax Comes First: Understanding how Syntax is the Backbone of Comprehension." In addition to providing classroom-ready ideas about how to more fully incorporate syntactic assessment and instruction into everyday instruction, this issue continues the goal of showcasing the Science of Language Comprehension, which heretofore has not been well integrated within the broader Science of Reading dialogue. In Part 1 we emphasized the fact that syntactic structure, sentence composition, and word meanings (the grey box in Figure 1, reprinted from the Introduction to Part 1) form the core engine that supports language comprehension, yet often they don't receive adequate attention during Tier 1 reading instruction. Here, we present eight additional articles that make the case for greater attention to syntax as the backbone of language comprehension. As in the previous issue, each of the articles in this issue will answer one or more of the following key questions:

- How can I broaden my understanding of the Science of Reading by considering the Science of Language Processing?
- How can I use this information to adjust my classroom practices?
- How can I teach syntax and support students in learning it?
- What key areas should be assessed to prevent syntax-related difficulties that impact reading comprehension, inform instruction, and ensure that instruction is effective?

Decades of psycholinguistic research have established that language processing is fundamentally incremental and predictive.

With regard to explaining the Science of Language Comprehension, the articles in this issue complement those in Part 1 by presenting the second of two fundamental facts about language processing. Decades of psycholinguistic research have established that language processing is fundamentally *incremental* and *predictive*. Issue 1 developed the idea of incrementality in the articles by Van Dyke and Yacovone. The research reviewed there shows that skilled comprehenders do not wait until the end of a sentence or a paragraph to construct syntactic representations; rather, our brains build the representation that seems the most correct at each incremental point in the sentence. This incrementality occurs typically at the level of the word, but representations could change even at the level of the syllable. For example, once we hear or read a verb like "investigate" followed by an "ing" ending instead of an "ed" ending, the comprehender immediately adjusts their understanding of the text (i.e., situation model) to include the appropriate sense of grammatical tense and completion. Even more dramatic incremental adjustments happen as well, as in the sentence "While Anna bathed the baby played" from the Van Dyke article in Issue 1. Here, the meaning representation shifts from Anna bathing the baby to Anna bathing herself. Importantly, these meaning shifts occur so fast and automatically that they are not within our conscious awareness. Because these meaning shifts are outside of our awareness, comprehension seems effortless, despite the rampant uncertainty that comes with having to make immediate interpretations.

In the current issue, the article by Buggy and Dillon describes the predictive aspect of language processing. These authors draw clear distinctions between the predictive process that is supported by evidence, and the idea of "3-cuing," which has no support in psycholinguistic research. The idea of making predictions about what will come might seem like a cue-driven guess, but the article describes how a skilled comprehender makes these predictions based on their *language knowledge*, which includes detailed information about the statistical distributions of syntactic structures in the language. The article by MacDonald builds on this idea while discussing how the syntactic patterns in academic (book) language diverges from those of spoken language — a fact that directly motivates instructional activities designed to increase exposure to advanced language, either by ear or by eye. For the student with weak syntactic knowledge, the predictions that drive fast and fluent comprehension will be slow and incomplete, resulting in poor reading fluency and accuracy.

As we develop an understanding of how prediction underlies language comprehension, it is important to recognize that it happens at all levels of language. To illustrate this idea further, consider the Levels of Language figure (Figure 1). Decades of psycholinguistic research have established that our brains are constantly calculating "if I've heard/read X, then Y is probably coming next." These variables could be filled in at the level of the phoneme (e.g., if there is a /p/ sound, then it will probably be followed by a vowel), the morpheme (e.g., if there is the prefix "tri" then the rest of the word will relate to the concept of "three"), the word (e.g., if there is the word "an" then the next word will be a noun that begins with a vowel), or the phrase (e.g., if there is the phrase "the girl who smiled" then there will be an upcoming verb saying what else the girl did). Predictions can even ease processing when there are ambiguities. For example, in Figure 1 we show the two different syntactic structures for the sentence "The girls watched the man with the binoculars," which account for the possibility that either the girls could have the binoculars or the man could have the binoculars. But consider the sentence "The spy watched the man with the binoculars." Here, the syntactic ambiguity remains, but the use of the word "spy" makes the prediction that the binoculars should be associated with the spy even more likely, because binoculars are readily associated with spycraft. All of these predictions are possible due to a comprehender's experience with language — acquired via both implicit exposures from their environment and explicit instruction at school. When we think of skilled comprehension in this way, the fundamental importance of assessing and building language competence at all levels, as suggested by structured literacy, is clear.

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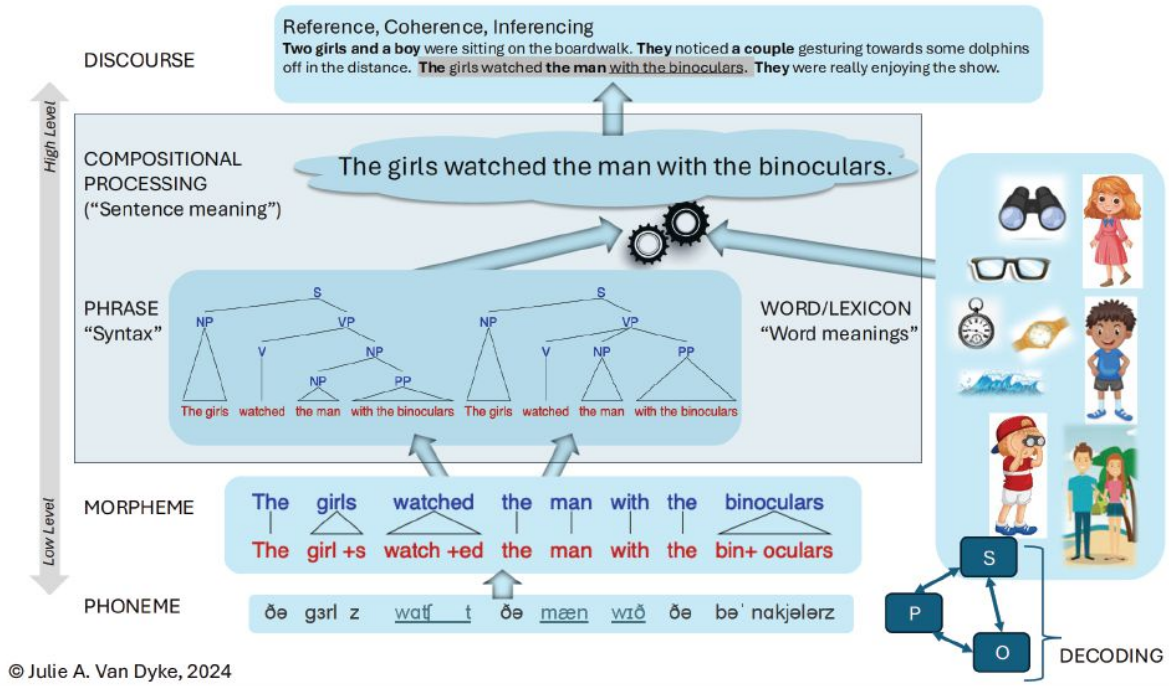
Nevertheless, explicit instruction for syntax is often absent in classrooms, or apparent only in an upper-elementary level writing block. Yet the scientific evidence-base underscores the need for accurate syntactic knowledge because this is the language component that both guides prediction during language comprehension and informs how a comprehender interprets which ideas are related to each other. For example, when processing a more complex sentence like "The girl who knew the spy was hiding watched with the binoculars," there is evidence that readers with poor syntactic knowledge will misinterpret the spy as the one doing the watching (Campanelli et al., 2024). Readers may also incorrectly imagine a pause after "spy" and create an interpretation in which it is the girl who is hiding. These deep syntactic errors can be very difficult to correct, because the comprehender may have no idea what went wrong in the first place.

The article by Breen explains how explicit attention to a reader's prosodic expression during oral reading can provide important information about their syntactic ability for both the teacher and the student. Using advanced acoustic methods, Breen demonstrates relationships between prosodic features such as pauses, pitch, volume, and duration and syntactic components of the sentence. Breen's research confirms that these relationships are both measurable and consistent, suggesting that a teacher's ability to notice incorrect phrasing can provide powerful feedback for the student. Through modeling correct prosody and noticing when oral reading doesn't fit the correct meaning of a sentence, teachers can maximize the utility of oral reading exercises and oral reading assessments.

The next two articles by Eberhardt and Gillis and by Hennessy and Salamone extend the classroom focus by providing a treasure trove of insights and methods for actual instruction of syntax. The Eberhardt and Gillis article is the second installment of their discussion of *What Teachers Are Asking* and includes valuable insights into why it is necessary to teach syntax explicitly as well as how to do so. A thoughtful treatment of this question is so important, given the oft quoted observation that, "we [human beings] were never born to read" (Wolf, 2008, p. 3). While we *were* born for language, it is an ability that must be acquired, just like word decoding. Given this,

Figure 1

Levels of Language Processing



Note: Language is processed at multiple levels simultaneously (e.g., phonemic, morphemic, syntactic, lexical, discourse), ranging from the sound level (low) up to the text level (high). The intermediate syntax level is crucial for determining the relationships between ideas. In this ambiguous example, there are two possibilities: the left syntax tree shows that the man has the binoculars because both are linked under one Noun Phrase (NP). The right syntax tree shows that the girls watched with the binoculars because the Prepositional Phrase (PP) "with the binoculars" is linked at the same level as the verb "watched." Compositional processing is where information from syntax and lexicon are merged to create a representation of sentence meaning, which is then integrated with other sentences at the discourse level. When uncertainties are present, the brain uses heuristics to choose the most syntactically simple interpretation (note that the right tree has only 6 nodes vs. 7 on the left.) The article by Van Dyke in Part 1 describes how this process works.

explicitly organized exposures and instruction are beneficial, especially in light of the mismatch between the properties of spoken and written language, as discussed in the MacDonald article. The article by Hennessy and Salamone provides even more background by discussing the job of syntax and the job of the sentence and how they work together to create meaning. Many direct and indirect instructional activities are spelled out explicitly, as well as a helpful catalog of "potential troublemakers" for comprehension.

The next two articles in the series come back to the topic of language variation, which was addressed in Part 1 by Gatlin-Nash. This topic is critical because today's classrooms often have students with many different language backgrounds. In the current issue, the article by Murray and colleagues affords a look into the complex syntax of African American English (AAE), which is often underappreciated and underutilized as a possible leverage point for instructing General American English. Cárdenas-Hagan makes a similar point about multilingual students, presenting a call to action for instructors to better understand the features of their students' home language. This knowledge enables teachers to anticipate problem areas caused by mismatches between the home language and the language of instruction, and equips them to more effectively highlight similarities between the languages, which benefits instructional goals.

Rounding out this issue are two articles designed to provide resources as teachers increase their knowledge and practice in the area of syntax. Co-Editor Kelly Powell-Smith returns to the topic of assessing syntax, with an article filled with helpful advice about how to use syntactic assessments within a Multi-Tiered System of Supports (MTSS) framework, including a goldmine of information describing a variety of language assessments (highlighting syntax) aligned to different purposes within MTSS (e.g., screening, diagnostic). Our final article, curated by the theme co-editors, is a compendium of resources for professional development, teaching practice, and digital tools collected from across the full article set. Notably, this article also provides a summary of the major takeaways from our entire collection — a resource in itself that we hope readers can come back to again and again.

Once again, we would like to thank the Editors-in-Chief of *Perspectives* for their unwavering support of this project. Our hope is that readers will come away from reading these two issues with a deeper appreciation of how important it is to focus on all aspects of language in order to address the complex reading problems found in today's schools. Our own call to action is for the literacy community to work vigorously on the two fronts represented by the Simple View of Reading (Gough & Tunmer, 1986) in parallel. For decoding, we must leverage proven techniques to support word reading (e.g., explicit instruction and assessment of phonemic awareness, phonics, and the alphabetic principle), AND we must attend more to explicit instruction and assessment of the language processing mechanisms that support reading comprehension. While areas such as vocabulary and morphology already receive attention on the language side, the role of syntax must not be overlooked. Attention to evidence from the "Science of Reading" provides a firm foundation on which to base decoding instruction because a wealth of evidence has established that phonics is the part of language that matters most for word recognition. A similar foundation exists for reading comprehension, if only we choose to embrace it. As noted in the Introduction to Part 1, over 50 years of psycholinguistic research points to syntax as the backbone of language and reading comprehension. Let us now take the idea that Syntax Comes First seriously!

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Dr. Julie A. Van Dyke *holds a joint appointment as an Associate Research Professor at the Institute for Brain and Cognitive Sciences, University of Connecticut, the Yale University Child Study Center, and the Yale-UConn Haskins Global Literacy Hub. Previously, she served as a Senior Research Scientist at Haskins Laboratories for 22 years, where she investigated the cognitive and neural bases of reading and language comprehension. She is also the Inventor and Chief Scientist at Cascade Reading, which is a reading technology that uses Natural Language Processing to provide in-the-moment visual scaffolding of syntactic relationships during reading comprehension. Dr. Van Dyke received her Ph.D. in Cognitive Psychology from the University of Pittsburgh, her M.Sc. in Computational Linguistics from Carnegie Mellon University, and a B.Sc. in Computer Science and Linguistics from University of Delaware. Her primary research investigates how memory and syntactic processing interact during reading comprehension, with a special focus on individuals with poor memory or language ability. She is an energetic advocate for translating lessons learned from the cognitive and neuroscience of language comprehension into guidelines for educational and clinical practice. Her advocacy is informed by 5 years as a high school English and History teacher, and by parenting a child with Dyslexia, Developmental Language Disorder, Dyscalculia, ADHD, and Autism. Dr. Van Dyke is devoted to improving learning outcomes for all children and passionate about supporting parents in their quest to help their neuro-diverse child succeed.*

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Kelly A. Powell-Smith, Ph.D., NCSP, *Professor of Reading Science at Mount St. Joseph University. Dr. Powell-Smith is the former Chief Science Officer at Acadience Learning. She is the lead author on* Acadience RAN, Acadience Reading Survey, Acadience Reading Diagnostic: Phonemic Awareness and Word Reading & Decoding, Acadience Reading Diagnostic: Comprehension, Fluency, and Oral Language, and Acadience Spelling, *as well as co-author of* Acadience Reading K–6 *and* Acadience Reading 7–8. *Dr. Powell-Smith obtained her doctorate in school psychology from the University of Oregon. She has served as an Associate Professor of School Psychology at the University of South Florida, faculty associate of the Florida Center for Reading Research, and consultant with the Eastern Regional Reading First Technical Assistance Center. She currently serves on the editorial boards of* Journal of Evidence Based Practices for Schools, School Psychology Review, School Psychology Forum, Single-Case in the Social Sciences, *and* The Elementary School Journal. *Dr. Powell-Smith is currently co-team leader of the special education team for the Evidence Advocacy Center and a member of the workgroup on teaching single case designs in higher education. Her work has been cited in more than 216 professional journals. Dr. Powell-Smith has provided training in assessment and intervention in 23 states and Canada and conducted over 290 national, state, and regional workshops and presentations. Dr. Powell-Smith is passionate about improving students' educational outcomes, in particular related to literacy.*

Basic Vocabulary for Syntax and Language Comprehension

Clause – A group of words comprising a subject and a predicate and expressing a complete thought. An independent clause is a sentence. Sentences may also contain dependent (or subordinate) clauses, which modify the subject, predicate, or the main sentence as a whole.

Composition – An active mental process of combining words into phrasal, then clausal, and finally sentential units. Characterized as "active" because compositional processing involves more than merely joining word meanings. Syntactic composition involves adding knowledge about syntactic roles and relationships. For example, in the sentence *Jane was surprised by the bell,* it is *the bell* that actually did the action, even though *Jane* is in subject position. Semantic composition involves elaborating basic meanings with contextual information. For example, in the sentence *Jane began the book,* context is used to determine whether Jane began reading or writing the book, since the sentence itself isn't specific.

Constituent – A group of words associated with each other that function as a unit within a sentence. Together, they answer the questions *who*, *what*, *where*, *why*, and *how*. To identify a constituent, substitute a wh-pronoun for those words and see if the sentence is still grammatical. For example, the sentence *the sweet little girl smiled* can become *who smiled?*, showing that the group *the sweet little girl* is a constituent. Similarly, the *sweet little girl did what?* shows that *smiled* is a constituent.

Discourse – A collection of sentences organized together to form a text or verbal presentation. The particular organization follows conventions associated with the discourse genre (e.g., narrative, exposition, dialogue, etc.) and, when written, includes concepts of print such as paragraph structure and punctuation.

Grammar – The set of rules describing how morphemes, words, phrases, clauses, and sentences combine. The rules reflect normative practices in a particular language, and when they are broken, the resulting production is determined to be *ungrammatical* (i.e., wrong according to the conventions of the language).

Lexical semantics – Refers to individual word meanings *plus* knowledge about usage (e.g., how meanings change in relation to syntactic or semantic contexts (i.e., *watch* as a verb vs. a noun; *get* means *obtain* or *understand*).

Lexicon – A collection of word meanings (or *lexemes*), each of which is elaborated with syntactic, semantic, and pragmatic knowledge about correct usage.

Morphology (morphemes) – The study of words and word parts, such as roots, base elements, suffixes, and prefixes. Morphemes are the smallest meaning units in a language. They can be true words (e.g. walk) that stand alone (called *free morphemes*), or word parts (past tense -ed, plural -s), called *bound morphemes,* because they must be joined with a free morpheme to create a word.

Morphosyntax – The syntactic dimension of bound morphemes, which encodes grammatical features such as number (i.e., singular, plural), tense (past, future, present, progressive, perfect), person (i.e., first, second, third), or mood (indicative, imperative, subjunctive). English does not encode all of these into bound morphemes, but many other languages do; other languages may therefore contain single words with multiple syntactically-relevant morphemes (e.g., Spanish cantábamos – "we were singing"). The process of matching bound morphemes across words (e.g., making sure

a plural has a plural verb, or a 1st person pronoun has the matching verb) is referred to as morphosyntactic processing.

Oral language – Often used interchangeably with *spoken language* or *listening comprehension*, as in the Simple View of Reading (Gough & Tunmer, 1986) or the Reading Rope (Scarborough, 2001). Refers primarily to language knowledge, including vocabulary and grammar, that is learned implicitly from one's environment prior to the age of instruction. After instruction begins, this term is used to refer to language competence in non-reading environments (e.g., what a child can understand or produce, even if unable to read or write it).

Oral reading fluency – The ability to read aloud with appropriate expression, including pauses, elongated phrases, and pitch changes to reflect emphasis or topic shifts within the text (i.e., prosody). The way a student phrases text reflects the syntactic structure that the student has assigned to that text.

Orthography – The writing system used to translate sounds or meaning into written form. Orthographies may be alphabetic (i.e., written letters map to sounds; English, Spanish), Syllabic (i.e., symbols map to oral syllables; Cherokee, Japanese) or Logographic (i.e., pictures represent entire words; Chinese, Cuneiform). Orthographies with a consistent correspondence between sounds and letters (e.g., Spanish, Italian, Finnish) are referred to as *transparent* or *shallow*, while those with many exceptions (e.g., English) are referred to as *opaque* or *deep*.

Parsing – The process of identifying parts of speech, phrasal groupings, and the relationships between phrases within a sentence (e.g., which phrases are subjects, predicates, modifiers, etc. and which phrases modify which other phrases or words). The resulting linguistic analysis is referred to as a *parse tree* (because of its branching character) or a *syntactic structure*.

Parts of speech – The category corresponding to a word's syntactic function. These are noun, verb, adjective, adverb, preposition, determiner, conjunction, and interjection. Although pronouns are a type of noun, they are sometimes considered to be a separate category.

Phonology – The system of rules determining how speech sounds are sequenced and distributed within words (e.g., only certain sounds occur together, and in certain contexts). These rules are influenced by the physical limitations of our vocal tract (i.e., certain sounds are difficult to produce in sequence). Across the world's languages there are approximately 200 different phonemes, but each language incorporates its own subset of these. English has 44 phonemes; Spanish has 24; Urdu has 61; Hawaiian has only 13.

Phrase – A group of words associated with a particular part of speech that makes up a constituent. For example, *the sweet little girl* contains a noun (*girl*) and determiner (*the*) and two adjectives (*sweet, little*). The determiner and adjectives are modifiers of the noun, and so the entire constituent is described as a noun phrase because the noun is the central word. Similarly, a verb phrase includes the main verb and any modifying words (e.g., *smiled happily* is a verb phrase that includes a modifying adverb, as does w*ill definitely smile* or *might have been smiling earlier*).

Pragmatics – Social rules for language use, including how context affects interpretation and use. Pragmatic knowledge is what tells us that the utterance *Can you pass the salt* is not a yes or no question, but rather a request for an action, or when it's *proper* to refer to a colleague as "Mr./Mrs./Professor" or "Janie".

Predicate – The part of the sentence that specifies what the subject is doing or being; contains a verb and all associated modifiers.

Prosody – The rhythm, stress, and intonation of a spoken phrase or sentence. *Implicit prosody* is the imagined voice in the head that accompanies fluent silent reading.

Semantics – General term referring to meaning. Includes word meanings (i.e., vocabulary) and relationships between them.

Situation model – The outcome of comprehension. A mental representation of events, actions, or circumstances that includes temporal, spatial, causal, motivational, and personal characteristics of the involved entities or ideas, as well as the relationships between them. Similar to an image, or movie, of what was comprehended. Also referred to as a *mental model*.

Subject – A person, thing, or concept that is the actor, doer, or experiencer of the action or quality stated in the predicate.

Syntactic awareness – The ability to determine whether a particular usage example fits the rules of the language.

Syntactic knowledge – A language user's knowledge of the syntactic rules of a particular language, including competency in applying those rules to produce grammatical utterances/writing.

Syntax – The rule system that governs how words are combined into phrases, clauses, and sentences (see *grammar*). A sentence could make no sense but still be syntactically correct if the words are arranged appropriately (e.g., *Colorless green ideas sleep furiously*, from Chomsky, 1957). In English, syntax is embodied in strict word order rules that are used to identify syntactic functions (i.e., subject comes before verb, direct object after verb). Other languages allow flexible word order because they contain morphology that identifies the syntactic functions of words in the sentence. For example, in Latin, the sentence *The boy loves the girl* can be expressed as *Puer puellam amat*, or *puellam amat puer* because the ending *-am* on *puellam* indicates that this word is the direct object (accusative case), no matter where it lands in the word sequence. Consequently, syntax is not about word order *per se*, but rather about the relationships between words or phrases in the sentence (e.g., direct objects are part of the verb phrase and subjects are not).

The Science of Syntax and Predictability

By Ryan Buggy and Brian Dillon

KEY TAKEAWAYS

- **Oral language development, including unconscious syntactic knowledge, undergirds and precedes skilled reading.**
- **The largely unconscious knowledge of syntax allows humans an infinite capability to produce novel sentences that express multiple dimensions of human experience.**
- **This knowledge contributes to the unconscious prediction of upcoming sentence components within a fraction of a second, which affects the speed with which new words are integrated as they are encountered.**
- **Predictability effects happen far too fast to represent any conscious, cue-based guessing system à la three-cueing.**
- **Teachers can support language development throughout the school years by modeling complex language use and providing opportunities to practice syntax in rich linguistic environments.**

There are more than 7,000 languages spoken today (Eberhard, Simons, & Fennig, 2024), varying greatly in their phonologies and vocabularies. Each language possesses its own syntactic "rules" about how words are arranged to express meaning. For example, English speakers say "I saw a cat," but not "I a cat saw" (as a Turkish speaker would). As language users gain increasing experience with a language, these syntactic patterns let them unconsciously anticipate how sentences will unfold, helping them grasp meaning more quickly and efficiently compared to younger or more novice speakers.

Syntax is the creative engine that powers language use, allowing us to combine words and morphemes into larger units that express more complex meaning. It has been described as infinitely "generative" (Chomsky, 1965), meaning that speakers can use a set of unconscious "rules" about word order to create an infinite number of novel sentences. We can even form syntactically valid sentences that have no logical interpretation. Linguist Noam Chomsky provided one famous example, "colorless green ideas sleep furiously" (Chomsky, 1957), to demonstrate the power of syntax to create grammatical sentences even in the absence of meaning.

In the field of psycholinguistics, one major question is how this syntactic knowledge is used to support typical language use and acquisition. Indeed, the overwhelming majority of children appear to learn the syntax of their language spontaneously and implicitly from a very young age. This approach differs from that of an educator or clinical practitioner, whose focus is especially drawn to those who haven't mastered their language and therefore require additional instruction to remediate learning challenges.

Syntax is the creative engine that powers language use, allowing us to combine words and morphemes into larger units that express more complex meaning.

In this article, we discuss the cognitive mechanisms used in skilled language comprehension. The insights afforded by this "basic research" approach can help establish a common theoretical framework within which we can better understand variation across individual language users. This understanding can even lead to the development of educational interventions designed for students with atypical language development. Given this approach, what have psycholinguists learned about how we process syntax?

One key insight from psycholinguistic research is that syntactic knowledge is used spontaneously and unconsciously in

Abbreviations

ERPs: Event-related potentials
EEGs: Electroencephalograms
ORC: Object Relative Clause
SRC: Subject Relative Clause

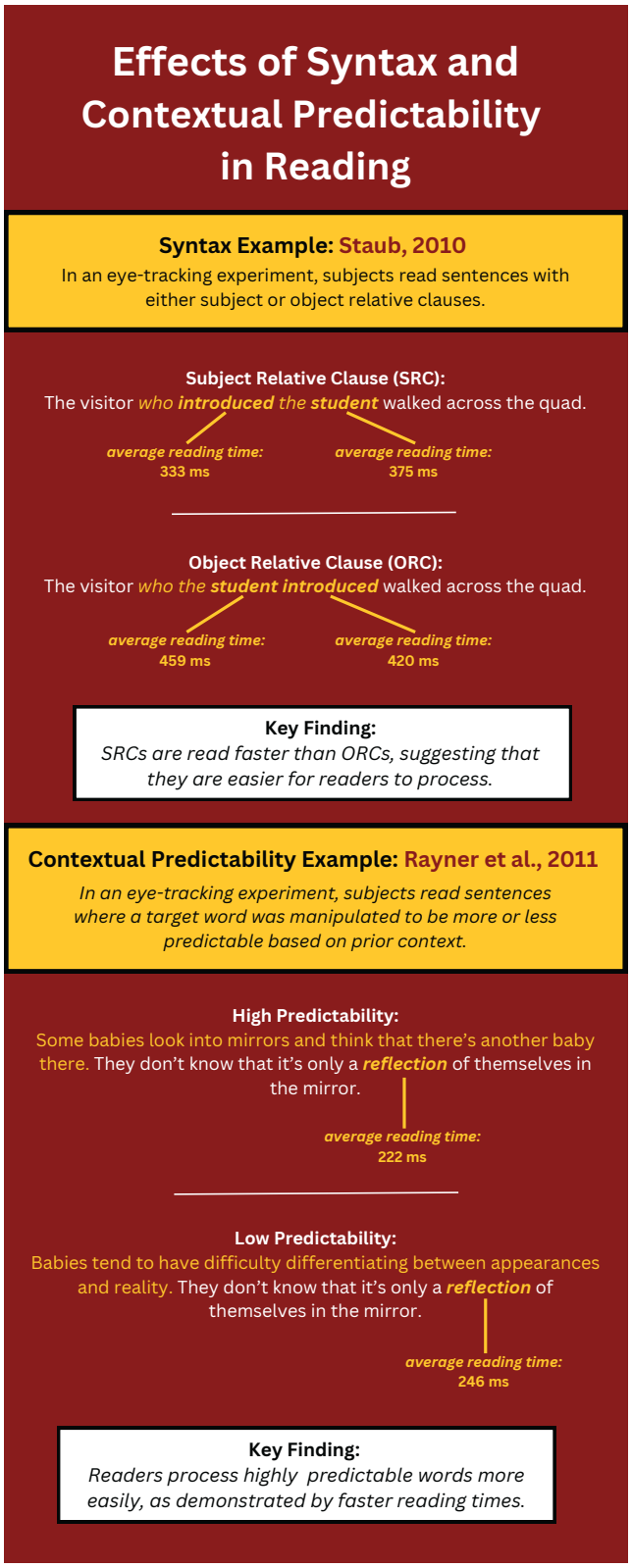
language processing (see further discussion in the article by Van Dyke in Part 1). Our minds make active use of rich syntactic rules to analyze and interpret language even if we are not consciously aware of these rules. For example, consider a sentence like, "I know the student who Mary taught." Typically developing readers immediately recognize that "who" refers to "the student," and that it should be interpreted as the direct object of the relative clause. In other words, we easily recognize that *Mary taught the student*, even with the inverted word order. This simple observation suggests that our minds have a powerful ability to analyze syntax implicitly, without deliberate effort.

How do researchers study the extent to which our minds instinctually and unconsciously analyze syntax? To do this, psycholinguists employ techniques such as eye tracking and event-related potentials (ERPs). In eye-tracking studies, we might ask subjects to read a series of sentences that vary in their structure — for example, two different types of relative clauses — and look at metrics such as the mean fixation time on a given word or the proportion of regressive eye movements. These measures have been shown to index lexical and syntactic processing difficulty from the earliest moments a reader's eye lands on a word in a text. Note that these disruptions are measured in milliseconds — far too fast to reflect a deliberate, conscious process. In ERP studies, we use electroencephalograms (EEGs) to study the electrical activity of subjects' brains relative to the timing of a specific stimulus. For example, we may be interested in the time window between the presentation of a sentence and the appearance of a particular brainwave associated with language comprehension. Here again, we measure processing difficulty in extremely subtle measurements: milliseconds and microvolts. This sensitivity means that these "real-time" techniques can give us insight into rapid, subconscious language comprehension in a way that is not possible with paper-and-pencil assessments or explicit self-reports.

These precise measurements are deeply revealing about how much the mind knows about syntax. For example, consider these two different sentences: "I know the person who taught Mary," and "I know the person who Mary taught". The relative clause in each sentence varies in an important way. In the first, the relative pronoun ("who") corresponds to the subject of the relative clause (the person doing the teaching), hence, a *Subject Relative Clause* (SRC). In the second, it corresponds to the direct object (the person being taught), hence an *Object Relative Clause* (ORC). Analyses of the frequency of different syntactic structures in naturally occurring texts reveal that the typical English speaker will encounter SRCs three to five times as often as ORCs (Roland et al., 2007). Amazingly, readers unconsciously use this statistical fact as soon as they encounter a relative pronoun like "who" when reading a sentence. That is, upon recognizing the relative pronoun "who," they spontaneously predict the syntactic structure associated with the more common SRC, anticipating that a verb will be the next word in the sentence. When this is not the case because the structure is in fact the rarer ORC, significant processing difficulty occurs (Staub, 2010; Figure 1).[1] This finding reveals

Continued on page 14

Figure 1



Summary of results from two studies that use eye-tracking technology to measure word-by-word reading. Full citations for Rayner et al. (2011) and Staub (2010) are in the References list.

[1] The article by Van Dyke in Issue 1 provides an example picture of how the eyes regress in response to this unexpected information.

that language users know the difference between SRCs and ORCs implicitly, and that this knowledge guides how they move their eyes through a text.

More interestingly, as soon as they read a relative pronoun (e.g., "who," "which," or "that"), readers immediately and spontaneously use their implicit syntactic knowledge to make statistically sound predictions about which syntactic structure they are about to encounter. Similar *predictability effects* have been a major focus of psycholinguistic research. For over forty years (e.g. Ehrlich & Rayner, 1981), researchers have noted that readers process words that are highly predictable in their sentential context (e.g., "I went to the store to buy a loaf of *bread*.") slightly faster than they process even those same words in more neutral contexts (e.g., "He had left the *bread* out on the counter.") Note that this type of predictability effect has nothing to do with Goodman's widely debunked theory of reading as a "psycholinguistic guessing game" (Goodman, 1967). Goodman argued that readers, particularly developing readers, engage in active, even conscious predictions as they read, enabling them to "decode" upcoming text without actually processing it. However, the predictability effects studied by psycholinguists occur on the order of tenths or even hundredths of a second — far too fast to represent any conscious process such as cue-based guessing that would occur in lieu of individually processing each word. Furthermore, as Stanovich (1985) demonstrated, a lack of sentential context does not inhibit strong readers from accurately decoding unpredictable words. That is, while predictability effects can slightly accelerate the speed with which we process individual words, readers are also completely capable of accurately and efficiently reading words that are entirely devoid of any sentential context. For example, good readers have no difficulty reading a list of unrelated words, as they do for certain fluency assessments. They do not rely on cue-based syntactical or semantic cues to read text. It is simply that words that are highly contextually constrained appear to be processed very slightly faster than those that are not.

There are various theories about why this might be the case. Currently, the predominant hypothesis is known as *surprisal theory* (Levy, 2008), which frames the difficulty of processing a word as a function of the word's probability given its prior sentential and syntactic context (Staub, 2025). Again, we emphasize that despite the name "surprisal," this theory does not claim that readers are engaging in any conscious predictive processes à la three-cueing, nor do they feel "surprised" upon seeing an unpredictable word. This is simply an example of "top-down" processing, wherein a larger structure (i.e., the syntactic parse) facilitates the "bottom-up" processing of smaller units (i.e., individual words). Indeed, the literature on surprisal generally deals with differences in the speed of lexical access and syntactic integration (i.e., the time it takes readers to retrieve the meaning of a word and place it in the context of the sentence at hand), *not* in any effects on the overall accuracy of one's decoding.

In other words, readers' unconscious hypotheses about the continuation of a given sentence neither enable nor prevent them from accurately reading an upcoming word, but they do affect how many milliseconds this process will take. Goodman's cue-based approach posited that readers actively rely *on syntax and semantics in order to read words*. Surprisal theory, in contrast, suggests that readers make countless, unconscious hypotheses about possible continuations *based on what they previously read,* with the accuracy of these hypotheses very slightly speeding up or slowing down the reading of a new word on the order of milliseconds. While these effects should by no means be misconstrued as evidence in support of a syntax-based "guessing" approach to reading, they do have fascinating implications for our understanding of how the brain handles natural language. In particular, they demonstrate that readers have rich, unconscious expectations about the syntactic structures and the content of what they will read, and that they draw upon these expectations to anticipate how sentences will unfold word by word. It is likely that these top-down syntactic expectations play a role in developing fluent reading; see the article by Breen in this issue for further discussion of the relationship between syntax, prosody, and oral reading fluency.

Oral language development undergirds (and precedes) skilled reading. The kind of syntactic prediction that guides fast and fluent reading is only possible when implicit syntactic knowledge is well-developed.

Given our discussion of syntax and predictability effects, educators and caregivers may be wondering about the implications of these findings for how they might support their students' development. For example, do predictability effects mean we should train students in reading highly unpredictable sentences? Certainly not! Or at least, we see no basis in the research for such a practice. Instead, one clear takeaway is that oral language development undergirds (and precedes) skilled reading. The kind of syntactic prediction that guides fast and fluent reading is only possible when implicit syntactic knowledge is well-developed.

While we have largely focused on syntax and predictability in written text, these effects also occur in spoken language; indeed, that is where children first acquire their unconscious, statistical understanding of the patterns of language. As such, we want to underscore the importance of engaging in back-and-forth linguistic exchanges with children, providing them with examples of complex sentence use, and encouraging their own vocabulary and syntactic development. Engaging children with language in this way leads to a reciprocal relationship with their reading; children's oral language provides a basis for

understanding written text. Their experience reading further enriches the linguistic knowledge base that they deploy in reading and speaking alike, especially with respect to complex linguistic structures that are more frequent in print (see the article by Maryellen MacDonald in the current issue for more discussion). Every sentence we say to our children, from the simplest to the most complex, provides their brains with the "data" they need to become skilled, dynamic users of language.

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Ryan Buggy *is a doctoral student in cognitive psychology at the University of Massachusetts, where he conducts psycholinguistic research in the UMass Eyetracking Lab under the supervision of Dr. Adrian Staub. Ryan also serves as the PD Impact Director at The Reading League, where he has the opportunity to support school districts in aligning their instruction with the scientific evidence base around literacy. Prior to joining TRL, Ryan worked for Pittsfield Public Schools in Berkshire County, Massachusetts, and was a national LETRS trainer. He is passionate about making connections between basic experimental research and its relevance to instructional design.*

Brian Dillon *is a Professor in the Department of Linguistics at the University of Massachusetts, Amherst, USA, specializing in psycholinguistics. His research focuses on the cognitive mechanisms that underlie syntactic processing in typically developing adults, with a special interest in the relationship between grammatical structure and working memory processes. Dr. Dillon investigates this topic in a variety of languages, seeking to understand how the grammar of a given language influences how linguistic input is processed in memory. He prioritizes gathering insights from typologically diverse languages (e.g., Tagalog, Turkish, Chinese, Hindi, Russian, Hebrew) in addition to English in order to understand both universal and language-specific aspects of language processing. His work utilizes a variety of experimental techniques, including eye-tracking-while-reading, visual world eye-tracking, and electrophysiological measures and has been published widely in both linguistics and cognitive science journals, including the* Journal of Memory and Language, Open Mind, Glossa Psycholinguistics, Syntax, Cognition, *and* Topics in Cognitive Science. *He is now in his 4th year of service as a founding Co-Editor-in-Chief of* Glossa Psycholinguistics.

Book Language
What It Is, How Children Can "Get It"

By Maryellen C. MacDonald

KEY TAKEAWAYS

- Book language diverges from speech in almost every possible way — topics, words, and sentence structures are all very different from how we talk to children.
- These differences are the natural consequence of different communication situations in speech and print.
- Some young readers can find unfamiliar book language challenging. Even children who read individual words adequately may fall behind around 4th grade, when book language becomes more important to reading.
- Parents and teachers can help children of any age adapt to book language.

In the opening chapter of Mary Pope Osborne's *Dinosaurs Before Dark*, young Annie quickly reached the magic treehouse by climbing "the longest rope ladder Jack has ever seen." Jack hesitated to follow, but then "He gripped the sides of the rope ladder, and up he went."

Thus begins the beloved Magic Treehouse chapter book series for young readers, with over 60 installments and rave reviews. This series features clear, direct language, but it still contains what teachers and reading researchers call *book language* — language that's typical of texts and different from the speech that children hear.

Mastering book language, and eventually the related academic language of later schooling, is extremely important for reading and school success. To understand how we can help children adapt to book language, we need to know what it is and why it can be challenging for young readers.

The What and Why of Book Language

There are good reasons why speech directed at children and books intended for children contain very different language. When we're talking to children, we often say things like, "Time for bed," "Eat your peas," and "Good job!" Short phrases fill our conversations because we're typically talking about familiar things and events, visible to everyone in the conversation. Long descriptions aren't necessary.

An author "talking" to a child through a book is in a very different situation: the author and child don't know each other, they have no shared history, and they're not in the same place, looking at the same things. To tell a story to a distant reader, the author must use very different language than the speech of everyday conversations. The result is book language, with more words, more detail, and different sentence structure. Some examples are in Table 1.

One obvious difference between these examples and speech directed at children is vocabulary. Table 1 has words and phrases like "quick as a wink," "carton," "rumpled," "Inn," and "student council," all of which aren't typical in speech to children. Overall, children's books contain a greater variety of words, more abstract words, more nouns and adjectives, and more emotional words than speech, reflecting authors' need for descriptions of scenes and characters. If these words are rarely encountered in speech, then by definition, they're unfamiliar to pre-readers and challenging to interpret while simultaneously learning to read.

Beyond vocabulary, book language differs from speech in the syntax of its sentences. Compared to speech, book language sentences tend to be longer and crammed full of descriptive information. One way that authors pack more information into book language is by using *embedding*, putting a clause (a part of a sentence containing a verb) inside a sentence. One kind of embedding is called relative clauses, which add extra information about a noun. Some examples from the books we've seen so far include the following, where I've marked the relative clauses [with brackets]: "…an empty carton [lying on the sidewalk]," "the longest rope ladder [Jack has ever seen]," and "this fifth grader [named Lamont] [who walks me home]," which has two relative clauses in a row.

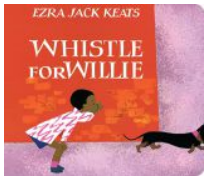
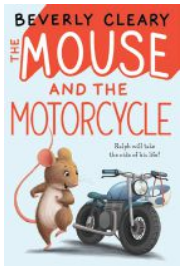
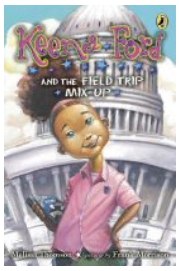
Relative clauses are challenging for both young and adult readers. They create uncertainties about how to group words together and how to interpret their meaning. For example, in "the longest rope ladder [Jack has ever seen]," there's a sequence of three nouns, "rope ladder Jack," which could be grouped in several different ways. One option for grouping three nouns is to treat them as part of a list, like "milk eggs bread." Another common interpretation of three nouns is grouping them into a single noun phrase, as in "talk show

Abbreviation

CCSS: Common Core State Standards

Table 1

Examples of Book Language in Children's Books

Examples	Source
Peter saw his dog, Willie, coming. Quick as a wink, he hid in an empty carton lying on the sidewalk.	 *Whistle for Willie*, by Ezra Jack Keats, a picture book for shared book reading. https://youtu.be/umbWnSOi0iQ
Keith, the boy in the rumpled shorts and shirt, did not know he was being watched as he entered Room 215 of the Mountain View Inn.	 *The Mouse and the Motorcycle*, by Beverly Cleary, a chapter book for 5–9-year-olds. A link to the first chapter read aloud: https://www.youtube.com/watch?v=Rr4GOKjPn70
I know about student council because this fifth grader named Lamont who walks me home was on student council last year.	 *Keena Ford and the Field Trip Mix-up,* by Melissa Thompson, a chapter book for 8–12-year-old children. This link is to the first part of the book: https://youtu.be/dY2Q8aYFGf8?feature=shared

host." But neither of these interpretations is correct in this case, in which there's a two-word noun phrase, "rope ladder," and then the next word, "Jack," starts a relative clause. The need to settle on the correct interpretation for ambiguities like this can derail and slow reading.

Relative clauses appear commonly in books for both children and adults, but they are vanishingly rare in our everyday conversations with children and even among adults. Montag (2019) found that relative clauses were 6–50 times more frequent in picture books than in speech to children. As children get older and begin reading on their own, they'll increasingly encounter relative clauses and other complex sentences in the books they read.

Children can learn the patterns of their language from repeated exposure and practice. This means that extensive reading practice is a good way to learn about book language. However, while oral language experience is certainly valuable for children's development and decoding, language experience that is exclusively oral won't help them much with book language. That's because the vocabulary and sentence structures in speech and books are so different. This situation creates a classic catch-22: children need to know about book language in order to read fluently, but the speech they hear doesn't give them the opportunity to get this knowledge.

This impossible situation can manifest strongly in 4th grade, in conjunction with the so-called "4th grade slump," referring to children who make adequate reading progress in early grades but fall behind around Grade 4. There appear to be many causes of late-identified reading problems, but one of them is likely to be unfamiliarity with book language. Some children may read individual words and simple phrases adequately, but they struggle to understand the vocabulary and syntax of the increasingly complex texts in 4th grade and beyond. How can we help these and other children adapt to book language?

A Steady Diet of Book Language Will Help Young Readers

I've noted that children can naturally learn about the patterns of book language from extensive exposure, via their own reading and shared book reading. The hitch here is what we mean by "extensive exposure." Becoming a fluent reader is a long process, and children need abundant experience and reading practice to learn the many differences between book language and speech. Fortunately, there is quite a lot that caregivers and teachers can do to provide opportunities for children to learn about book language.

Continued on page 18

Book Language For the Pre-Reader

Picture books for shared book reading are not just rich with book language, they are rich with opportunities for children's learning. Teachers and caregivers who read a book with young children should read the text on the page as it's written, which will naturally introduce book language. But they shouldn't stop there; pausing to talk a bit about the book with the child is an excellent way to solidify the new vocabulary and syntax in the book.

Children delight in repetition, and returning from time to time to challenging yet enjoyable books with dense book language will help children learn a book's complex sentence structures and vocabulary. However, book variety is also important. Shared book reading offers an opportunity to present challenging book language in a highly supportive setting because the book's pictures and the opportunity to discuss the book can enrich the child's understanding of the language and the story. Educators therefore should include more complex texts as part of their selections for shared book reading.

Book Language for the Young Reader at Home

When a child starts to read on their own, they begin to drive their own exposure to book language. This process is naturally slow to get going, and many elementary school teachers recommend that children read aloud to an adult for about 20 minutes a day outside of school. Reading at home is important for reading fluency, including exposure to book language. Adults who are monitoring this reading play an important role in helping with new vocabulary and explaining the meaning of complex sentences. And shared book reading continues to be important at this age.

Classroom Instruction Blending Words and Sentences

The vocabulary and sentence structures of book language are correlated, meaning that words that are typical of books — "although," "habitat," "process," "include," and so on — tend to occur in the complex sentences that are also typical of books. This means that vocabulary lessons can be an opportunity for exposure to complex sentences, scaffolded by the lesson activities. Teachers may begin introducing new vocabulary with a simple sentence, but the lesson should include the vocabulary words in more complex sentences, which is where children will increasingly find them in their own reading. The synergy between words and sentences boosts book language learning.

Conclusions

Book language sometimes flies under the radar in reading research and instruction, dwarfed by enormous attention to decoding. Of course, decoding is essential, but for children to move beyond individual words to reading full texts, they also need to grasp how book language works. U.S. government surveys show that two activities supporting learning about book language are now in decline: both shared book reading in the home and children's own independent reading outside of school are waning, compared to data from just a few years ago. These activities are important for learning about book language and making strong readers. It is imperative that we try to reverse these trends and find ways to support children's reading and exposure to book language.

RESOURCES TO LEARN MORE

- **A video about book language** by the author of this article has more explanation and examples of book language.

- This article, which is aimed at educators and parents, explains how children naturally learn from exposure and practice, including about book language:

  Seidenberg, M. S., & MacDonald, M. C. (2018). The impact of language experience on language and reading: A statistical learning approach. *Topics in Language Disorders*, *38*(1), 66–83. **https://doi.org/10.1097/TLD.0000000000000144**

- These articles describe differences in vocabulary, topics, and sentence structure in speech to children and books for children:

  Montag, J. L. (2019). Differences in sentence complexity in the text of children's picture books and child-directed speech. *First Language*, *39*(5), 527–546. **https://doi.org/10.1177/0142723719849996**

  Nation, K., Dawson, N. J., & Hsiao, Y. (2022). Book language and its implications for children's language, literacy, and development. *Current Directions in Psychological Science*, *31*(4), 375–380. **https://doi.org/10.1177/09637214221103264**

Maryellen MacDonald *received her Ph.D. in Psychology with a minor in Linguistics from UCLA. She is the Donald P. Hayes Professor Emerit in the Department of Psychology and the Program in Language Sciences at the University of Wisconsin-Madison. She has conducted extensive research on language comprehension in adult fluent readers, where a major theme has been how readers learn and use the statistical patterns of texts while comprehending written language. A child-focused example of this work is Seidenberg and MacDonald (2018), which is mentioned in MacDonald's article in this issue. Other major research areas include language production and working memory, both in typical adults and in aging and dementia. A recent interest is bringing her and others' language research to new audiences. Her book,* More than Words: How Talking Sharpens the Mind and Shapes Our World *(Avery/Penguin Random House), is written for general audiences and will appear in the summer of 2025.*

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Using Prosodic Production to Support Reading Comprehension

By Mara Breen

KEY TAKEAWAYS

- Prosodic fluency correlates with reading comprehension in beginning readers and experienced high school readers.
- Students who struggle to produce correct prosodic phrasing are likely struggling with syntactic structure.
- Teachers should use oral reading fluency assessments to identify prosodic deficits.
- Instruction should include out-loud and repeated reading that explicitly focuses on producing appropriate prosody, especially with syntactically complex material.

Fluent oral reading is reading that "sounds good"; that is, the reader's production accurately reflects the lexical, syntactic, and semantic structure of the text. In the field of sentence processing, and in linguistics more broadly, we describe the attributes that make language "sound good" as *prosody*. Readers who have mastered oral reading fluency are considered *prosodically fluent*. Work in my lab explores variability in prosodic fluency and how this predicts comprehension (or vice versa).

We use quantitative experimental methods to measure children's prosodic fluency — both how well they produce prosody, and how well they perceive it. In our speech production experiments, children read aloud sentences we've written to include syntactic and semantic forms that require specific prosodic patterns (see Table 1). We then extract and measure acoustic features of the child's speech — duration, intensity, and pitch — and compare these to an "ideal" adult production (Figure 1). Results demonstrate that prosodic fluency includes marking syntactic boundaries with prosodic breaks, signaled by the specific acoustic features of word-lengthening, pausing, lowering of pitch, and signaling new and important discourse elements through longer duration, greater intensity, and higher pitch (Figure 2).

Continued on page 22

Table 1

Story from Breen et al., (2024).

Phrasing	In October, before the weather was too cold, Michael and his cousins, Jacob and Zackary, went to the zoo.
Filler	Michael's Uncle Gus is a zookeeper, so he can take the boys in to see some animals up close.
Ambiguous Coordinate: Two-One	"Michael and Jacob, or Zackary can go into the monkey's cage." Gus told the boy.
Filler	Zack loved monkeys so Jacob and Michael let Zackary go in the cage.
Wh-question	"What is your favorite animal?" Uncle Gus asked Michael.
Basic Quotative	"I love giraffes." Michael replied.
Yes-No Question	"Can we go see them now?"
Ambiguous Coordinate Structure: Two-Two	"OK, Wendy you can take Michael, and Jacob or Zackary to see the giraffe."
Phrasing	Wendy, Michael's aunt, took them to see the giraffes while Gus waited for Zackary.
Contrastive Focus	Next Jacob wanted to visit the Lion, not the Bear.
Declarative Statement	The boys had a very exciting day.
Unambiguous Coordinate Structure	Michael took pictures of a giraffe, a rhino, and a kangaroo.

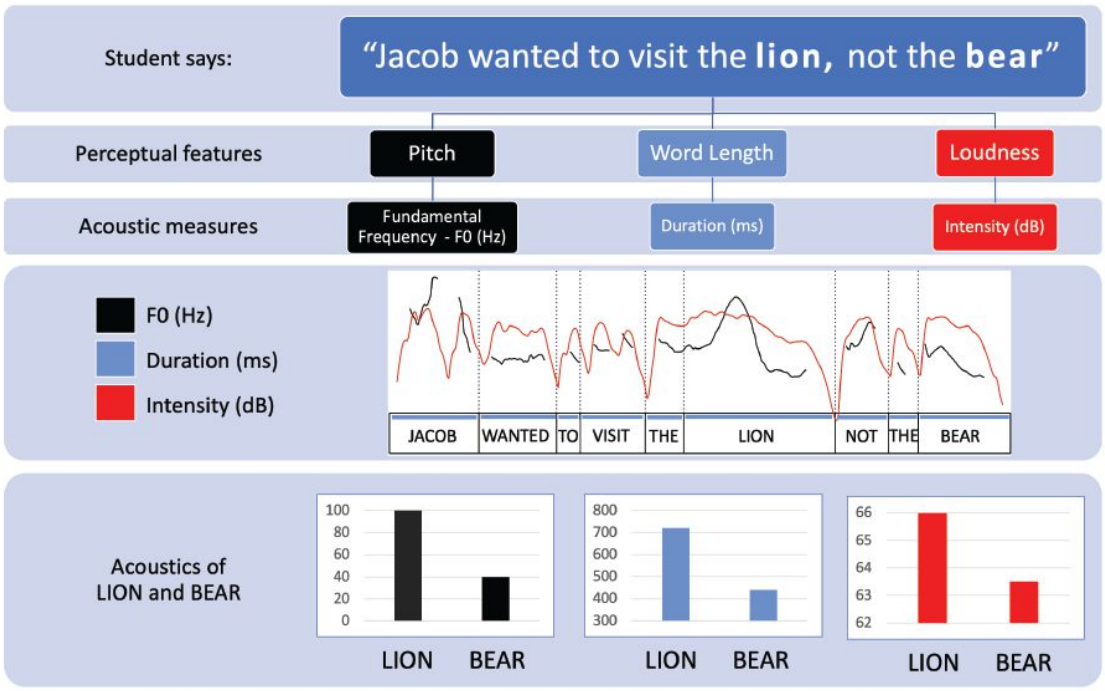
Note. The story features sentences crafted with specific syntactic and semantic structures. The Contrastive Focus example is depicted in Figure 1; The Wh-question, Ambiguous Coordinate Structure and Contrastive Focus examples are presented in Figure 2.

Abbreviation

DLD: Developmental Language Disorder

Figure 1

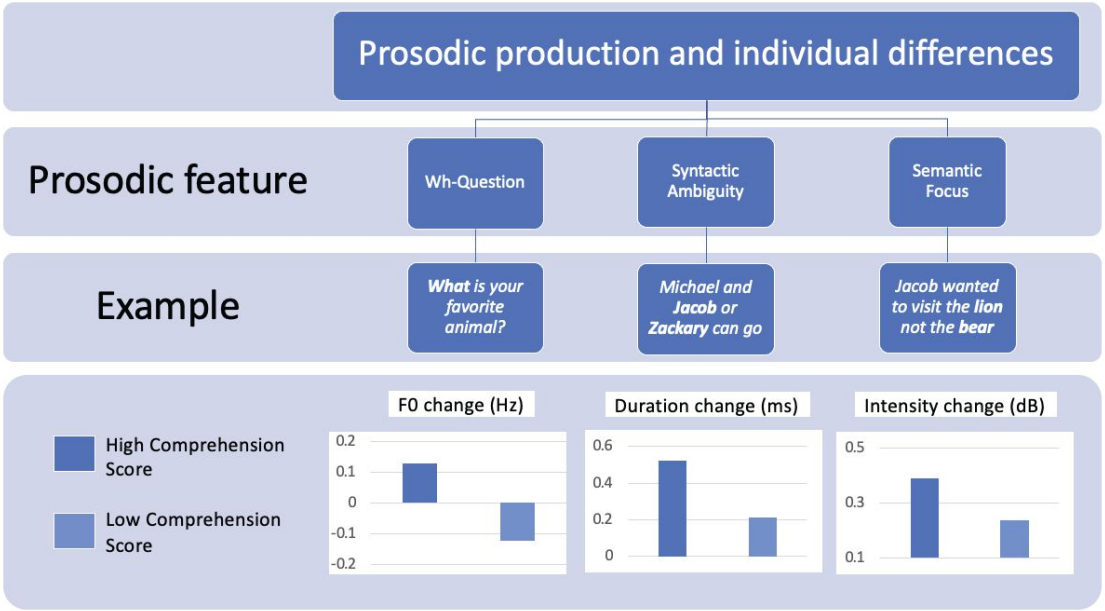
Demonstration of Acoustic Measures Indexing Perceptual Features of Speech



Note: Measuring prosody requires identifying relevant perceptual features – pitch, word length, and loudness – and translating them into the objectively quantifiable acoustic features of fundamental frequency (F0), measured in Hertz (Hz), duration, measured in milliseconds (ms), and intensity, measured in decibels (dB). The sentence "Jacob wanted to visit the lion not the bear" demonstrates how acoustics signal prosody. "Lion" is contrasted with "bear" with a larger F0 change, longer duration, and higher intensity.

Figure 2

Reading Comprehension Skill Predicts Individual Differences in Prosodic Production



Note: This figure shows acoustic measures of high school readers' productions, demonstrating those with higher reading comprehension scores produce stronger cues to prosody: Bigger pitch differences on question words ("What"); larger duration differences between nouns depending on syntactic coordinate structure ("Jacob" is longer when grouped with "Michael" than "Zackary"); larger intensity differences between contrastive and new items ("lion" vs "bear") (Breen et al., 2024).

Direct measures of prosodic fluency reveal quantifiable differences between skilled and poor comprehenders. For example, we compared typically developing high school readers with those who fit the profile for developmental language disability (see Hogan & Van Dyke, Issue 1 information on DLD). Students listened to spoken productions of ambiguous sentences and chose which picture matched what they heard. Students who scored higher on a standardized reading comprehension assessment were also more accurate in the picture-matching task, demonstrating the relationship between prosodic perception and comprehension skill (Figure 3).

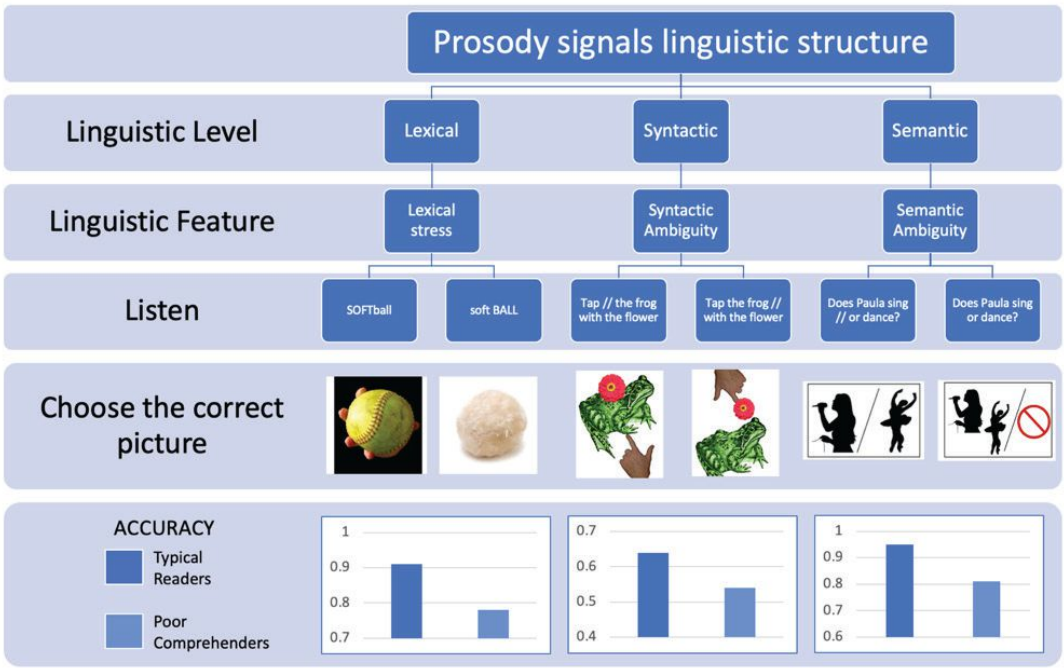
The good news is that teachers already have the tools they need to assess, and improve, prosodic fluency.

This experimental work allows us to explore the causal direction of the relationship between prosodic production and reading comprehension. Research with adult readers demonstrates that even in silent reading contexts, cuing prosody through text manipulation can push readers toward a lexical, syntactic, or semantic interpretation. In one study, we investigated how, when reading silently, readers would comprehend words with multiple syntactic meanings (e.g., "present," which can be *PREsent*, a noun, or *preSENT*, a verb) when placed in a poetic context (limericks). We found that readers slow down when the correct interpretation of the word clashes with the poetic meter. This slowdown means that the "inner voice" plays a determining role in how syntactic relationships are understood, and suggests that having a fluent auditory imagination for how language sounds (i.e., implicit prosody) affects overall comprehension. (Read more about this research here.)

The good news is that teachers already have the tools they need to assess, and improve, prosodic fluency. Existing measures of oral reading fluency allow teachers to assess features of prosody like phrasing, expressiveness, intonation, and pacing, in addition to overall speed. A student who struggles to apply the correct phrasing to a complex sentence is likely struggling to understand syntactic structure; a student who does not appropriately emphasize focused words in discourse may not have an accurate understanding of the semantic relationships among referents. By reinforcing the linguistic relationships among words through explicit instruction and simultaneously engaging in repeated readings and shared read-alouds using methods that emphasize prosodic signals in the text, all students will benefit.

Figure 3

Reading Comprehension Skill Predicts Individual Differences in Prosodic Perception



Note: This figure presents perception results from high school students with and without reading comprehension difficulty demonstrating that poor comprehenders are less accurate in interpreting prosodic cues that disambiguate lexical, syntactic, and semantic ambiguity. In the constructions represented here, poor comprehenders were significantly less likely to choose the correct picture after listening to the stimulus.

Call to Action

Standardized assessments of oral reading fluency are a crucial tool for assessing language (especially syntactic) ability. Instructors should pay attention to the within- and between-sentence prosodic productions of their students, as inaccurate patterns of emphasis and phrasings offer insight into deficits of lexical, syntactic, or semantic components of language knowledge. Explicit focus on learning correct prosody can facilitate better comprehension.

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Mara Breen *is a Professor in the Department of Psychology and Education at Mount Holyoke College. Her research explores speech perception and production, with a specific focus on prosody — the musical aspects of language. Using behavioral techniques, eye-tracking, and event-related potentials, she investigates how speakers use prosodic cues to provide meaning, how listeners use prosody to better understand speech, and how imagined prosody during reading can affect understanding. Her most recent work explores how the neural markers of prosody predict reading comprehension skill in elementary-aged children. Her work has been published in a range of psychology journals, including* Cognition, Journal of Memory and Language, Journal of Psychology: General, *and* Music Perception, *and she is a Fellow in the Psychonomic Society. Her work has been funded by grants from the NIH and the James S. McDonnell Foundation.*

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Teaching Syntax: What Teachers Are Asking – Part 2

By Nancy Chapel Eberhardt and Margie Gillis

KEY TAKEAWAYS

- **While oral language is learned implicitly for many typically developing students, this is only possible when formative environments are linguistically rich. When this is not the case, written language, including syntax, will require explicit instruction.**
- **Sentence structures and functions should be part of syntax instruction.**
- **Prepositions, pronouns and conjunctions are key to text cohesion.**
- **Syntactic knowledge can contribute to improved reading prosody and comprehension.**
- **Digital tools can help teachers understand syntax and support student learning.**

In *Syntax Comes First: Understanding How Syntax is the Backbone of Comprehension* Part 1, we addressed some of the frequently asked questions about syntax, including thoughts on a syntax scope and sequence, principles of structured literacy applied to syntax instruction, and how to integrate syntax instruction throughout the day across content areas. In Part 2, we build upon the answers to these questions and add a few more.

Is Explicit Instruction Necessary Since We Learn Language Implicitly?

While it is true that oral language is learned implicitly, Dr. Pam Snow (2019) reminds us that even though "oral language skills are natural, they are not a 'set-and-forget function', [..] as they are sensitive to environmental exposure and the quality of the interpersonal spaces that children experience in the early years." The instructional implications are obvious yet worth stating here. Students who have had limited language experience benefit from practice that begins with the teacher modeling a simple sentence (during the "I do" phase of instruction) followed by a child-friendly explanation of what a sentence is (more on this in our Part 1 article). During the guided practice portion of the lesson (we do), students can use sentence stems to scaffold their oral language rehearsal of sentences with multiple clauses. The final step in the gradual release process provides opportunities for independent practice as students engage in producing sentences with prepositional phrases that answer when, where, and how questions.

Another important point highlighted in the introduction to this issue is "that written text is entirely unlike spoken language with respect to its syntactic complexity — and therein lies the imperative for explicit instruction of syntax." (See further discussion in the article by Maryellen MacDonald in the current issue.) In other words, as students practice speaking and listening, explicit instruction is needed to reveal how the syntactic complexity of written language is encoded. In fact, as Hogan and Van Dyke discuss in their article in Issue 1, students who are identified with DLD frequently require explicit instruction to develop their oral language.

What Do I Teach Next After the Basic Simple Sentence?

Sentences can be written with four different global structures — **simple**, **compound**, **complex, and compound-complex**. The number and type of clauses determine the structure. A **simple sentence** is composed of one or more subject and one or more predicate — that is, one independent clause. Once students understand the structure of a simple sentence and practice generating them, the next step is to teach a **compound sentence** — a sentence with two independent clauses joined by a coordinating conjunction (i.e., **and**, **but**, **or** — the type of conjunction that connects two equal syntactic or grammatical parts). A **complex sentence** is composed of one independent clause and at least one dependent clause. Specific types of introductory words signal the relationship of the dependent clause to the independent clause. Subordinating conjunctions (e.g., **because**, **if**, **when**) signal a meaning relationship to the predicate in the independent clause. Relative pronouns (e.g., **which**, **who**, **that**) signal a meaning connection to the subject. The fourth structure, a **compound-complex sentence**, includes elements of both compound and complex sentences. These sentences are composed of two or more independent clauses and one or more dependent clauses. The sentences in Figure 1 illustrate each of these basic sentence structures.

As just described and illustrated, sentences can be classified according to their clausal structure. They can also be classified according to their functions. English sentences have four functions — to state, ask, command, or exclaim (see Figure 2).

Abbreviations

DLD: Developmental Language Disorder

T.E.R.A.: Text Ease and Readability Assessor

Figure 1

Sentences Types and Examples

Type	Example
Simple	The waves crashed. The wind and waves caused damage. The waves crashed and damaged the village.
Compound	The waves grew, **and** the people ran for safety.
Complex	Waves crashed **when** the tsunami hit the coastline. The waves, **which** were as tall as houses, damaged the village.
Compound-complex	**As** the wind picked up speed, the waves grew, **and** the people ran for safety.

Figure 2

Sample Sentences by Function and Name

Function	Name	Example
State	Declarative – *States a fact or opinion.*	The waves crashed.
Ask	Interrogative – *Asks a question.*	What is a tsunami?
Command	Imperative – *Gives a command or direction.*	Describe a tsunami.
Exclaim	Exclamatory – *Expresses strong emotion.*	Watch out for that wave!

Punctuation marks used at the end of sentences signal the type of sentence. Note the punctuation mark at the end of each example sentence in Figure 2.

Each of these sentence types should be taught explicitly, first through oral language activities that focus on speaking in complete sentences, as well as intonation that distinguishes between the different sentence types. As students transition to print, instruction should emphasize the punctuation marks to support prosody and reading fluency (e.g., the voice goes up at the end of an interrogative sentence).

How Do the "Little Words" like Pronouns, Prepositions, and Conjunctions Help with Comprehension?

In response to the question about scope and sequence in Teaching Syntax – What Teachers are Asking (Part 1), we talked about some of the grammatical building blocks that need to be explicitly taught and practiced using text. This set of words that we referred to collectively as "meaning links" are pronouns, prepositions, and conjunctions. These words create cohesion, that is, connections between words, phrases, and sentences. In this way, they contribute significantly to building meaning. Let's see how these links work. Many of these meaning links are high-frequency words. While they may be little words, they carry an outsized importance in terms of meaning-making as cohesive ties. Sometimes the meaning that is linked has to do with the "who or what" the passage is about. In this case, pronouns, which take the place of nouns, and synonyms for the noun (i.e., substitute namers) create a chain of reference, or what Schleppegrell (2013) refers to as a "referential chain" and what Text Ease and Readability Assessor (T.E.R.A.), described below in Example 1, refers to as "referential cohesion." The following example illustrates this process.

Example 1

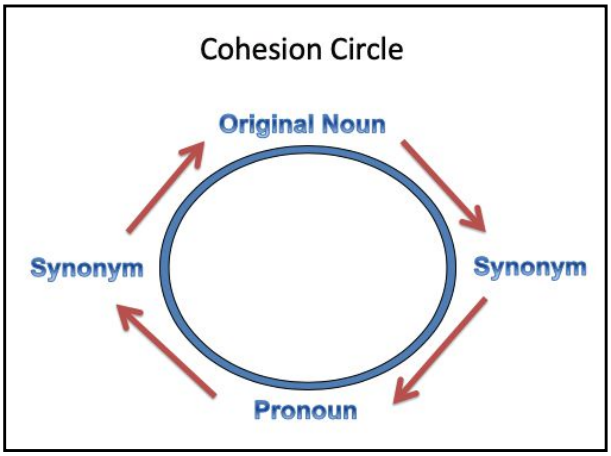
> **George Washington** served our country in several ways. **This great man** led the armies to victory. **He** went on to become **the first President of the United States**.

Note that **George Washington**, **this great man**, the **first President of the United States**, and **he** all refer to the same person. The word **he** is a pronoun.

Jennings and Haynes (2018) refer to this as the Cohesion Circle (Figure 3). Their mnemonic reminds readers to pay attention to these references across several sentences of text to aid comprehension (Gillis & Eberhardt, 2020). Practice tracing these connections using micro-discourses (i.e., short units of text typically two to three sentences in length) helps students develop the ability to recognize these meaning links to identify referential cohesion and facilitate reading comprehension.

Continued on page 26

Figure 3



Used with permission by Jennings and Hayes, 2018.

Tim Shanahan (2025), a researcher and literacy expert who advocates developing comprehension through the use of complex text, urges teachers to pay special attention to cohesion. He points out that students get lost in the connections between synonyms, pronouns and the original noun to which they refer. He advocates scaffolding this type of instruction and practice within the text that students are reading.

Many of the meaning link words, such as prepositions and conjunctions, depend on context for their meaning. For example, the preposition **in** can introduce a variety of phrases, each with very different meanings. Note the change in meaning of the phrase introduced by **in** as part of these sentences:

The puppy slept **in the box**. (Where?)

The puppy was i**n a hurry** to get outside. (How?)

In a minute the puppy will wake up. (When?)

Each use of the preposition **in** introduces a phrase that answers a different meaning — or syntactical — question. Note the questions in parentheses. In each case, the preposition signals a relationship between the words in the prepositional phrase and the verb that each phrase describes (i.e., slept, was, will wake up).

How Can Syntactic Awareness Contribute to Reading Fluency?

Syntactic awareness, the ability to use syntactic knowledge to recognize the relationship between words, contributes to comprehension. How? Recognizing phrasal boundaries and other syntactic structures indicates that the reader is processing the meaning of the text while reading. Reading in phrases can be a part of reading practice, as well as a way to assess students' prosody as a sign of language processing and meaning-making.

This can be implemented as part of oral reading practice, where students can be taught to "scoop" phrases and clauses based on the grammatical meaning questions. For example, in Figure 4, each "scoop" signals words that work together based on meaning. The first scoop captures the subject; this is the "what" the sentence is about. The second scoop answers "What kind?" telling more about the wave. The next scoop tells about the action, answering "Did what?" The final two scoops each tell more about the action by answering "Where?" and "When?"

Informal assessment of students' prosody can focus on the extent to which students' oral reading prosody reflects accurate syntactic phrasing. (See the article by Kelly A. Powell-Smith in Part 1 for further information about informal assessment of prosody, checklists, and rubrics to capture this information about students' oral reading.)

Are There Digital Tools to Help Teachers Learn About and Teach Syntax?

We are fortunate to have a variety of digital tools to help teachers understand syntax and to support student learning. Some digital tools, such as Cascade Reading and Text Ease and Readability Assessor (T.E.R.A.) help us look at text with an eye to its syntactic features. Other tools, including The Syntax Project and Sortegories,™ support instruction and practice with students. Table 1 provides a brief description of these tools with links to explore each in greater detail.

Let's Add Syntax!

A growing awareness of the importance of syntax as part of reading instruction requires new content learning for teachers. Fortunately, we have many answers based on our knowledge of the principles of Structured Literacy and increased awareness of the neuroscience of language processing. Answers to teachers' frequently asked questions included in this article are designed to inform and inspire teachers to add explicit syntax instruction to their reading repertoire.

Continued on page 28

LEARNING RESOURCES

- **Literacy How**

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- **Syntax: Knowledge to Practice online course** (2025)

Figure 4

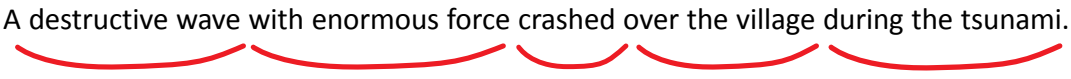
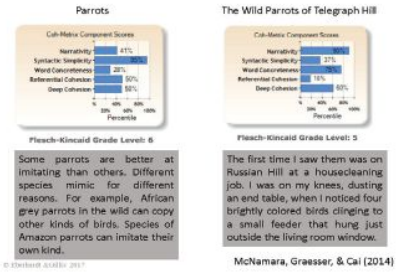
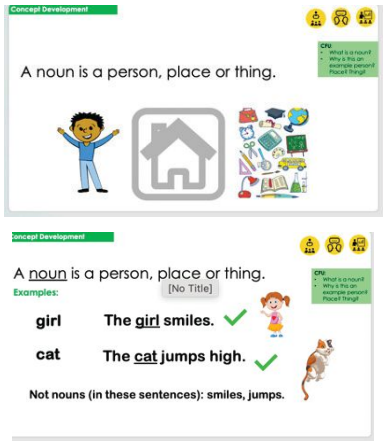
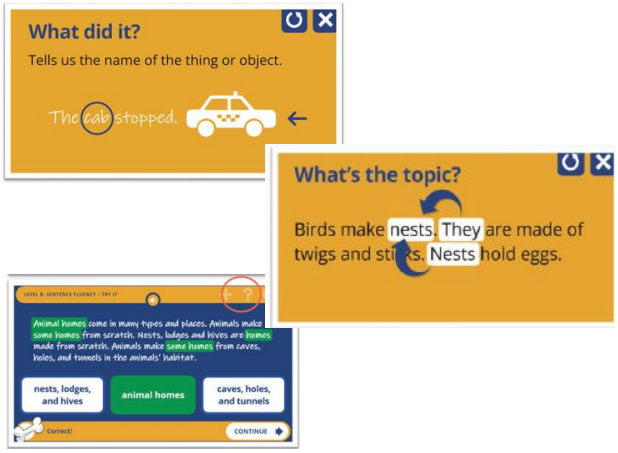


Table 1

Sample Digital Tools Useful for Supporting Syntax and What They Look Like

Digital tool	What it looks like
Cascade reading. Comprehend more. Cascade displays text revealing its syntactic structure. The syntactic cues provided by Cascade are useful to improve comprehension. Teachers can use the free Cascade Explorer tool to label grammatical features of a text and help students see the structure of sentences and its impact on meaning. Students report that reading is easier with text in the Cascade format. See the webinar at this link for a demonstration of how to use Cascade while teaching.	George Washington served our country in several ways. This great man led the armies to victory.
T.E.R.A. T.E.R.A., The Coh-Metrix Common Core Text Ease and Readability Assessor, gives teachers a view of features of text that contribute to its difficulty. Several of these include syntactic features such as referential cohesion and deep cohesion. Profiles of text display the extent to which these features are present in the text.	
Syntax Project The Syntax Project is a free teacher-created resource that can be used to teach young students about sentence construction. Slide decks are available to explain and practice basic concepts. Illustrations and examples support the explanations. Practice items for the targeted skill are also provided.	
Sortegories™ by 95 Percent Group Sortegories™, is a digital practice tool designed to develop accuracy and fluency in literacy skills including grammar and syntax. Interactive activities progress from the grammatical building blocks to the identification of the topic of decodable passages. Built-in help, indicated by a "?" in the menu bar (see first and third graphics), provides illustrated and narrated explanations of concepts needed for each activity.	

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Nancy Chapel Eberhardt *is an educational consultant with extensive experience as a resource teacher, special education administrator, and professional development provider. She has co-authored several literacy materials, including* Sortegories *with Sheryl Ferlito,* LANGUAGE! The Comprehensive Literacy Curriculum *with Jane Fell Greene, and the* Literacy How Professional Learning Series *with Margie Gillis. She serves as co-editor in Chief of* Perspectives on Language and Literacy *for IDA. Nancy is a strong advocate for preventing reading underachievement by supporting teachers with professional development and evidence-based resources.*

Dr. Margie B. Gillis, Ed.D., CALT*, is the founder and president of Literacy How, Inc., a non-profit organization that provides professional learning opportunities and coaching for educators on how best to implement research-based practices in the classroom. She has worked at the policy level through the Connecticut State Department of Education and has partnered with educators in other states to bring the research on reading and* Structured Literacy *into districts, schools and importantly, classrooms across all tiers of instruction. She is an advisor for ReadWorks, Understood, and the International Foundation for Effective Reading Instruction and is on the Editorial Board of the International Dyslexia Association,* Perspectives *and* The Reading League Journal. *She believes that learning to read is a civil right and that* ***all*** *children benefit from well-informed instruction.*

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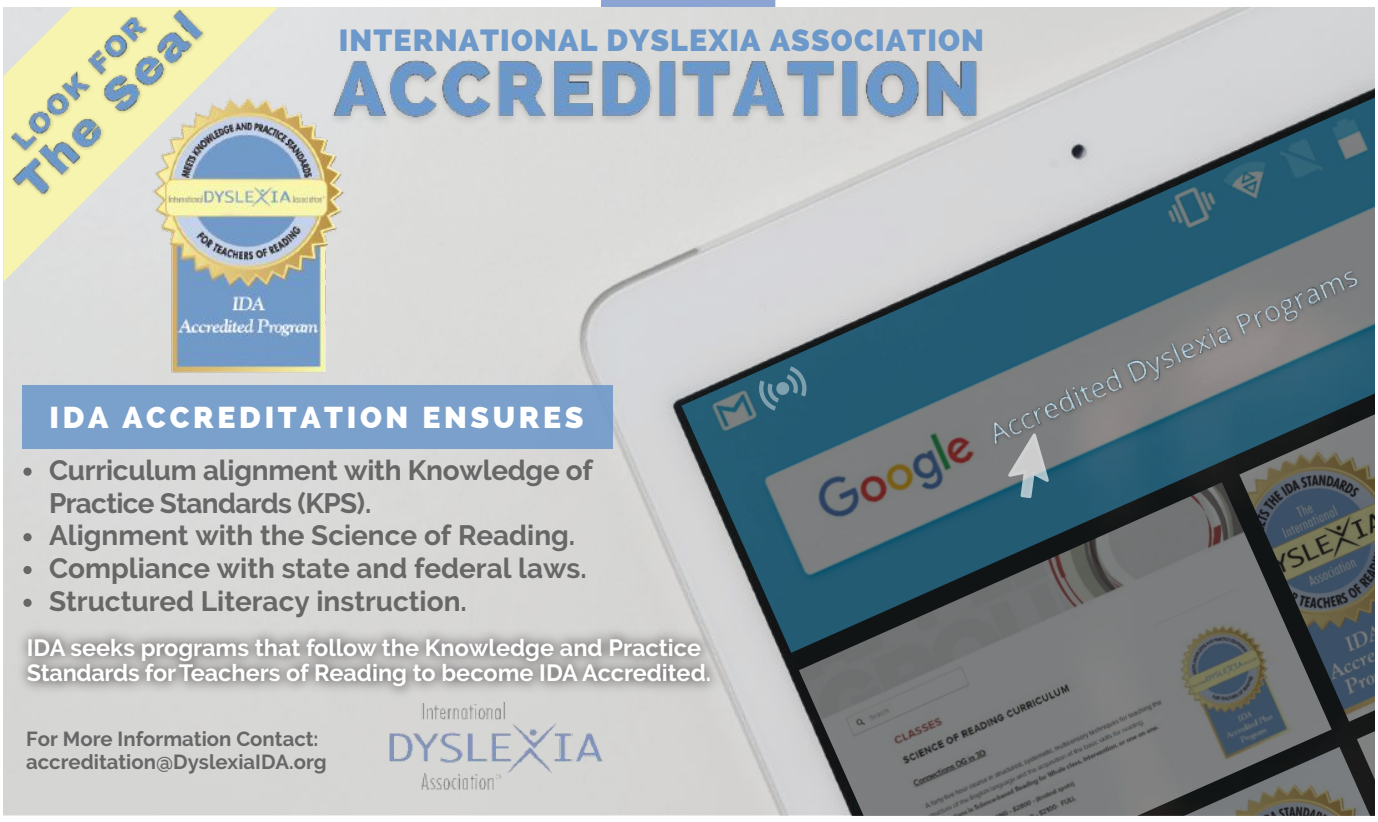

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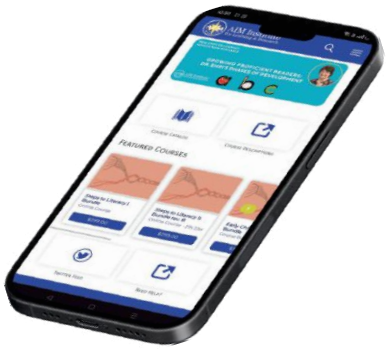

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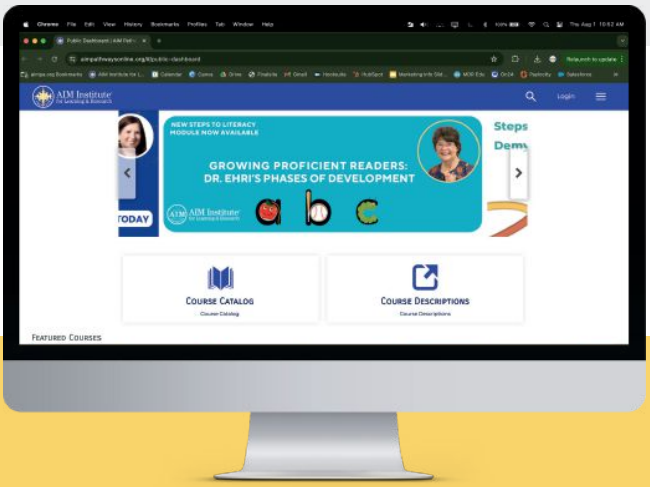

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Syntax and Sentence Comprehension
Challenges and Opportunities

By Nancy Hennessy and Julia Salamone

KEY TAKEAWAYS

- Comprehension is complex and requires multiple processes, skills, and knowledge sources.
- Syntax, the architecture for understanding the structure of the sentence, plays a crucial role in constructing comprehension of text.
- The building blocks of the sentence — the parts of speech, phrases, and clauses — convey meaning individually and in combination to communicate ideas.
- An informed instructional framework for sentence comprehension should include direct, as well as opportunities for indirect, instructional activities that integrate oral language, reading, and writing.

Reading comprehension may seem effortless, but it is, in fact, complex and in many instances, challenging for the reader. While comprehension has been characterized as a skill, it requires multiple integrated language skills, knowledge, and cognitive processes to construct and express understanding. This knowledge provides insight into the importance of understanding how the reader constructs meaning, and the educator's need to consider each contributor. For example, we know that when skilled readers come to text, syntax plays a critical role in their ability to make sense of the sentences. This aspect of reading comprehension does not always receive as much instructional attention as other contributors. In this article, we will focus on the relationship between sentence comprehension and syntax, and associated instructional practices.

The Syntax and Sentence Comprehension Connection

The Job of Syntax

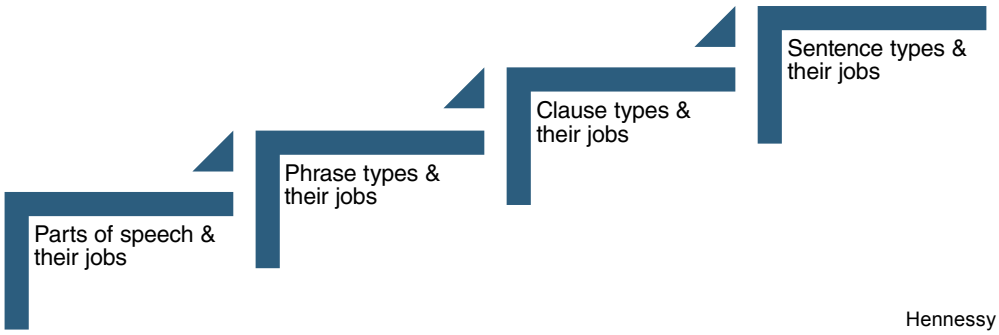
Accessing word meaning within the sentence is necessary; however, this alone is not sufficient to understand the sentence. While words carry meaning, syntax provides the structure for organizing and communicating the intended ideas. It provides the architecture for conveying the meaning of words, phrases, and clauses, and their relationships within the sentence. The ability to understand and parse the grammatical structure and identify each word's place in the structure, coupled with integrating the meaning of words and phrases, is necessary to understanding the sentence (Staub, 2015, p. 202). Syntax's role is critical as it explicitly conveys information about how the word meanings should be integrated into a unit of meaning so that "the reader does not have to infer who did what to whom" (Poulsen & Gravgaard, 2016, p. 325).

The Job of the Sentence

Syntax lives within the sentence and the relationship between the two is symbiotic. Understanding this relationship calls for a descriptive approach that focuses on language and how it's used to convey meaning. This description of a sentence reflects the following perspective: "an abstract linguistic frame that has slots for categories of words and phrases" (Moats & Hennessy, 2011, p. 43). The categories of words (e.g., part of speech), phrases (e.g., noun phrases, verb phrases), and yes, clauses (e.g., independent, dependent) have a position in the sentence that allows them to convey meaning individually and in combination, communicate relationships, and ultimately ideas. As such, they serve as the building blocks of the sentence (see Figure 1).

Figure 1

The Building Blocks of the Sentence



Hennessy & Salamone, 2024

While teaching the labels (e.g. parts of speech) and definitions (e.g., name of a person, place, thing, or idea) for each block has a purpose, understanding their function or how they contribute to meaning is essential to sentence comprehension. Readers and writers need to be explicitly taught how each contributes to communicating the ideas within a sentence. Brief examples that highlight the differences between the names for parts of speech and their jobs or how they convey meaning by answering specific questions in the sentence are shown in Table 1.

Sentence Troublemakers

While the good news is that syntax allows for the creation of an infinite number of sentences that serve as the "worker bees of text" (Scott & Koonce, 2014, p. 283), narrative and informational texts are typically written in academic or book language. The article by MacDonald, found in this issue, discusses book language in detail. The complex sentences found in these texts often pose challenges for all readers, particularly multilingual learners and students with language impairment or learning disabilities (Zipoli, 2017). The literature provides insight into potential troublemakers (Scott & Balthazar, 2013; Zipoli, 2017). Figure 2 surfaces characteristics and questions related to how the sentences within academic texts might pose problems. With these in mind, consider how the sentences from beginning and middle-grade texts (examples shown in Figure 3) might be problematic. As our students listen to or read sentences, educators need to explicitly teach students to identify and work with these potential troublemakers.

Continued on page 32

Table 1

The Parts of Speech: Their Names and Their Jobs

Parts of Speech: Labels and Descriptions	Parts of Speech: Jobs in Conveying Meaning
Noun-subject	Who or what?
Verb-predicate	Doing or did?
Adjective-modifies the noun	Which one, what kind, how many?
Adverb-modifies the verb	Where, when, how, why?

Figure 2

Potential Troublemaker Sentences

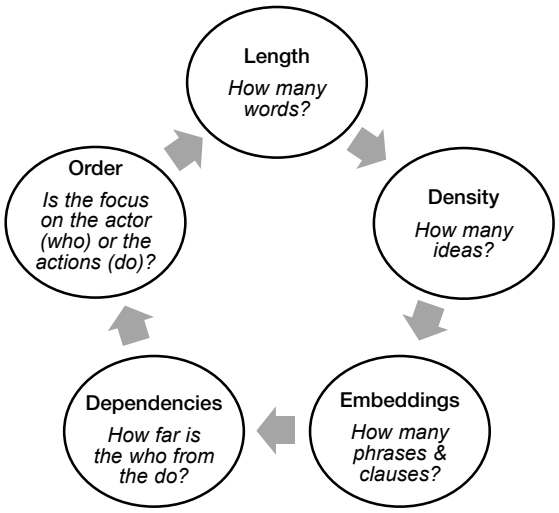
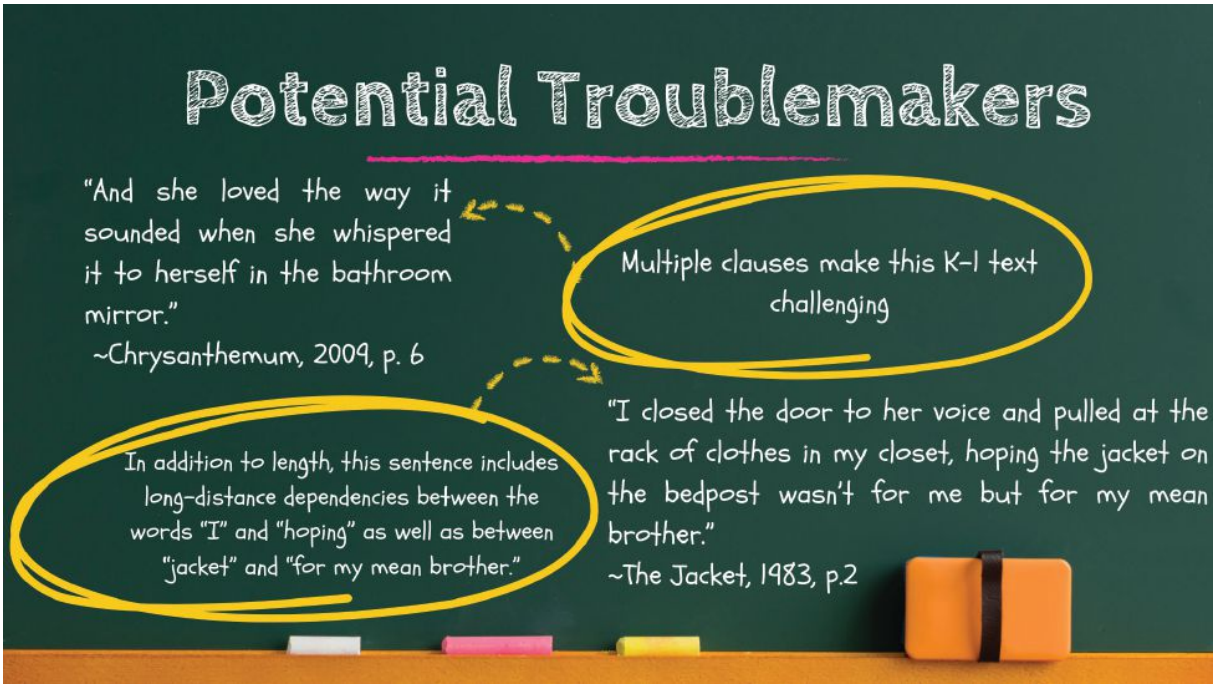


Figure 3

Potential Troublemaker Examples



Connections to Instruction

An Instructional Framework

An effective instructional approach to syntax and sentence comprehension leverages the connection between oral and written language, and utilizes both direct and indirect instructional methods that work with the building blocks of sentences, the sentence itself, and the connections between them (Hennessy, 2020). While direct instruction should be the instructional focus, there are informal (indirect) opportunities that educators should be aware of and tap into for developing sentence comprehension. Consider the instructional framework and potential activities in Table 2.

Instructional Guidelines and Examples

Zipoli (2017, pp. 221–222) has recommended three guiding principles for teaching syntax and sentence comprehension that align with the examples provided in the framework shown in Table 2. We discuss these in detail below.

1. **Many students will benefit from instructional opportunities that integrate both oral and written modalities.**

   Questioning and parsing tap into this integration as it offers learners the opportunity to engage with different building blocks of sentences while speaking and writing. Consider the sentence from *Chrysanthemum*: "On the first day of school, Chrysanthemum wore her sunniest dress and her brightest smile" (Henkes, 2009, p. 8). When preparing for instruction, the sentence-attuned educator can craft questions that tap into the function of the parts of speech, as shown in the script in Figure 4.

   Questioning and parsing can also be paired with a structured sentence organizer to offer learners the opportunity to work with structures in print. In the next example (Table 3), after reading the short story, *The Jacket*, middle schoolers parsed the sentence: "The next day when I got home from school, I discovered draped on my bedpost a jacket the color of day-old guacamole" (Soto, 1983, p. 1). Readers can use the headings provided to deconstruct the sentence and answer the question words. In both examples, the question words are answered by both individual words (e.g., "Chrysanthemum," "I") and groups of words (e.g., "on the first day of school," "draped on my bedpost"). This teachable moment illustrates how meaning is conveyed through single words, longer phrases, and clauses, helping students understand the flexibility and complexity of sentence construction.

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Table 2

Instructional Framework for Sentence Comprehension

Direct Instruction Focus	Direct Instructional Activities	Indirect Instruction Focus	Indirect Instructional Activities
Building Blocks of Sentences • Parts of Speech & their Jobs • Phrases & their Jobs • Clauses & their Jobs	Oral & Written Connections: -Questioning -Sorts (e.g., pictures, words) -Visual Representations -Structured Sentence Organizer	**Building Blocks of Sentences**	Reading Experiences: -Shared -Group -Independent
The Sentence • The Sentence & their Jobs • The Problem Sentence	Oral & Written Connections: -Questioning -Sentence Frames -Structured Sentence Organizer -Diagramming & other Visual Representations -Anagrams -Sentence Building: Combining & Expansion Fluency Integration: -Prosody & Parsing	**The Sentence**	Oral Language Experiences: -Oral Responses -Student/Teacher Talk Written Language Experiences: -Sentence Instruction -Written Responses Hennessy & Salamone, 2024

Table 3

Structured Sentence Organizer for the sentence "The next day when I got home from school, I discovered draped on my bedpost a jacket the color of day-old guacamole."

Which one, what kind, how many?	Who or what?	Is/was doing or happening?	To what, whom?	Where, when, why, how?
the color of day old guacamole	*I* (author Gary Soto)	*discovered*	*a jacket*	*The next day when I got home from school* *draped on my bedpost*

Figure 4

Parsing and Questioning Instructional Script for the sentence "Chrysanthemum wore her sunniest dress and her brightest smile."

Teacher: *Which word answers <u>who</u> this sentence is about?*

Students: *Chrysanthemum*

Teacher: *Which word tells what she <u>did</u>?*

Students: *wore*

Teacher: *Which word(s) tell what she <u>wore</u>?*

Students: *dress & smile*

Teacher: *Which word tells <u>what kind</u> of dress?*

Students: *sunniest*

Teacher: *Which word tells <u>what kind</u> of smile?*

Students: *brightest*

Teacher: *<u>When</u> did this happen?*

Students: *on the first day of school*

Image 1

The First Picket Line (1917)

Source: Library of Congress

Figure 5

Sentence Expansion Activity

Kernel sentence: The suffragettes picketed.

What kind? persistent
Where? in front of the White House
When? in 1917
Why? to gain the right to vote

Expanded sentence: In 1917, the persistent suffragettes picketed in front of the White House to gain the right to vote.

2. **Many learners can enhance their understanding of sentence structure by participating in activities that integrate reading and writing.**

   Activities such as sentence combining and expansion capitalize on the reading and writing connection to improve students' sentence comprehension and composition skills. Sentence combining asks students to combine two or more kernel sentences using varied syntactic patterns (Saddler, 2009). For instance, after reading *Frederick* (Lionni, 1967) the question, "What did Frederick contribute to his community?" can be posed to first graders. Responses such as "Frederick contributed poetry" and "He brought joy to his community" could then be combined into "Frederick contributed poetry and brought joy to his community" using the conjunction "and."

   With sentence expansion, students elaborate on a kernel sentence using question words (*what, when, where, how, why*). In this fifth-grade social studies activity on women's suffrage, the image *The First Picket Line* (1917) serves as additional scaffolding to support students' elaboration (see Image 1 and Figure 5).

3. **Teaching will be more successful when it includes direct, explicit instruction and opportunities for students to practice and apply targeted skills within the general education curriculum.**

   This process begins during the planning phase as educators consider how they will embed syntactic learning opportunities into their teaching. Gillis and Eberhardt (2018, p. 20) refer to this as *cognitive preparation* or the deliberate use of grammatical and syntactic knowledge that enables teachers to apply these skills to a variety of reading materials. Thus, the art of planning is highly metacognitive and a critical part of effective syntax and sentence comprehension instruction. Hennessy's Blueprint (2020, p. 89) features a series of questions designed to support educators in the planning process as shown in Figure 6.

The combination of explicit instruction and cognitive preparation is highlighted in the lesson in Figure 7, which uses sentence anagrams. Here, sentences are pre-written on word cards that can be taken directly from key moments in the text, or teacher-created to focus on specific facts or important moments. Students are tasked to put the sentences back together. Consider the teacher-generated sentence, "The mice gather supplies and prepare for the long winter ahead," based on the story *Frederick* (Lionni, *1967*). Each word is written on individual word cards and arranged in a scrambled order. The educator then demonstrates the process of unscrambling sentences, using clear, student-friendly language to guide students through each step as illustrated in the chart shown in Figure 7. This sequence of steps provides students with a framework and assists them with working through the activity sequentially.

It is important to note that learners require prerequisite knowledge and ample opportunities to work on syntax, including practice and feedback, before tackling these tasks independently (as shown in Table 2). For younger students and those needing additional support, the teacher can provide scaffolding by using color-coded word cards or written symbols to highlight different parts of speech. Ultimately it is the teacher, using careful observation and assessment, who determines which specific skills to target and when students are ready to transition to independent work.

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Figure 6

Blueprint Planning Questions

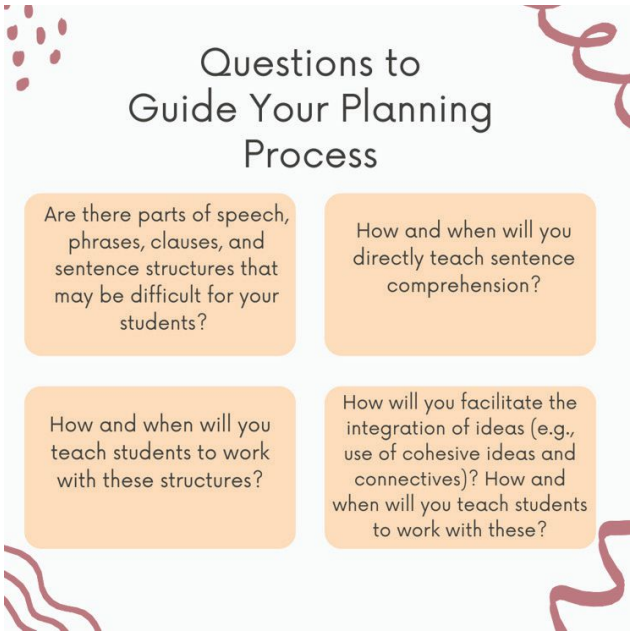

Figure 7

Anagrams Framework

1. First, I can identify the verbs or the actions. These words answer the question: "Is/was doing?" *(gather, prepare)*.	gather prepare
2. Is there a word that makes sense as the subject, or "doers," for both actions *(gather, prepare)*? The *mice* are the "doers" of both actions here.	mice → gather, prepare
3. Now, I am going to link my actions with the conjunction *and*. I will also ask myself: "What are the mice gathering?" The word that fits here is *supplies*.	mice gather supplies and prepare
4. Next, I want to ask myself: "What are the mice preparing for?" *(for the winter)*. I will combine those ideas.	mice gather supplies and prepare for the winter
5. I also have my describer, *long*. It answers the question,"Which one?" This describes the word *winter*.	mice gather supplies and prepare for the long winter
6. Finally, I will unscramble the nest of the sentence.	The mice gather supplies and prepare for the long winter ahead.

Putting It All Together: Sentence Comprehension

It's time to take syntax and the sentence seriously! It is more than a diagram or a simple definition. The sentence is a vehicle for communicating ideas, whether reading or writing. While a focus on syntax and sentence comprehension is often missing from current curricula and programs, we have a responsibility to recognize its contribution through our instruction.

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***Nancy Hennessy, M.Ed.**, is an experienced educator and literacy consultant who has designed multiple virtual and live professional learning events. She is the author of* The Reading Comprehension Blueprint: Helping Students Make Meaning of Text *and co-authored* The Reading Comprehension Activity Book: A Practice & Planning Guide for Teachers *with Julia Salamone. Nancy has held various positions in the International Dyslexia Association including past president. She received IDA's Margaret Byrd Rawson Lifetime Achievement Award in 2011.*

***Julia Salamone, M.Ed.**, is a lifelong learner with over twenty years of experience as an educator in both independent and public schools. Her background is in Special Education and literacy, and she currently works at the Haverford School for Boys as a high school Instructional Specialist Julia has also designed and delivered numerous presentations for virtual and live events, including the development of teacher training courses on dyslexia, the science of reading and writing, and structured literacy. Recently, Julia, working alongside literacy expert Nancy Hennessy, has co-authored* The Reading Comprehension Blueprint Activity Book: A Practice & Planning Guide for Teachers.

MULTIMEDIA RESOURCES

- **Webinar: Syntax & Sentence Comprehension**
  Seriously, Syntax Matters: Critical Connections to Comprehension — N. L. Hennessy
  https://www.corelearn.com/resource-posts/syntax-webinar
- **Triple R Teaching Podcast: Instruction**
  How to Teach Sentence Comprehension — N. L. Hennessy
  https://podcasts.apple.com/us/podcast/how-to-teach-sentence-comprehension-with-nancy-hennessy/id1498200908?i=1000651032206
- **Brookes Blog: Instruction**
  5 Tools and Tips for Building Sentence Comprehension — N. L. Hennessy & J. A. Salamone
  https://blog.brookespublishing.com/5-tools-and-tips-for-building-sentence-comprehension

Syntax and Reading Comprehension Among Multilingual Learners

By Elsa Cárdenas-Hagan

KEY TAKEAWAYS

- Multilingual learners can face unique challenges in acquiring the syntactic structures of multiple languages. They may also have varied opportunities and exposure to academic language structures in the language of instruction.
- Syntactic variations across languages can affect students' comprehension of written texts and production of coherent, well-structured writing.
- Multilingual learners may struggle with fluency due to the prosodic differences of their second language. Both dual-language and English as a Second Language (ESL) learners can benefit from prosody-focused instruction.
- Educators must understand potential connections between a student's first language and second language to guide instruction effectively. Culturally and linguistically responsive teaching fosters an inclusive and productive learning environment.

Humans possess the innate ability to develop oral language. Infants begin to coo and babble within the first months of life. When immersed in a language-rich environment, this early vocalization evolves into spoken words, short phrases, and sentences (National Institute on Deafness and Other Communication Disorders [NIDCD], 2000). Language exposure helps individuals acquire the sounds, vocabulary, and syntactic patterns necessary to produce cohesive sentences and engage in meaningful communication.

Reading can be much more challenging than speech because within the texts we encounter, sentence and text structures are more complex than those found in spoken language. Exposure to these complex structures is considerably reduced if students are not reading, and adequate syntactic skills have not had the opportunity to develop. This can present a particular challenge for multilingual learners, who may not read as broadly in the language of instruction. Multilingual learners need sufficient background knowledge, vocabulary, and the ability to analyze sentence and text structures while employing strategic thinking for proficient reading comprehension. Multilingual learners also face the need to navigate multiple language systems. As these learners develop an understanding of how oral language functions, they must be given opportunities to draw on their knowledge of their first language when learning to communicate, read, and write in an additional language (National Academies of Sciences, Engineering, and Medicine [NASEM], 2017). Many studies have described the development of reading and writing among linguistically diverse individuals, and several national reports are available for review (August & Shanahan, 2017, NASEM, 2017).

Leveraging students' cultural identities can enhance their motivation, engagement, and ability to access prior knowledge relevant to learning tasks.

Syntax development is a crucial language component that is necessary for the development of literacy among multilingual learners. Syntax influences both reading comprehension and writing proficiency. Multilingual learners may encounter challenges in acquiring the syntactic structures of multiple languages. Syntax is also a component of language where much divergence between languages occurs. For example, the

Continued on page 38

Abbreviation

ESL: English as a Second Language

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Spanish language places adjectives after their noun, which is in direct contrast to the English use of adjectives before the noun. These variations across languages can present challenges for multilingual learners. It can affect their ability to comprehend written texts and produce coherent, well-structured writing. Direct and explicit syntax instruction is essential for multilingual learners. Educators must be equipped to help all students build foundational reading skills and intentionally develop their language abilities, in particular, syntactic knowledge, for deeper reading comprehension. This requirement is particularly crucial for multilingual learners, who require teachers with a comprehensive understanding of reading development tailored to their diverse linguistic backgrounds.

Multilingual learners are one of the fastest growing student populations in the United States. The National Center for Education Statistics (NCES, 2024) reports 5.3 million English learners. The data from the National Assessment of Educational Progress (NAEP, 2024) show that many English learners fall behind their monological peers in reading proficiency. It is vital for educators to acknowledge the complexity of acquiring an additional language while also understanding the structural components necessary for literacy development.

Culturally and Linguistically Responsive Teaching

Language and culture are deeply interconnected, shaping all aspects of learning and playing a vital role in intellectual development (Vygotsky, 1978). Therefore, educators must draw upon students' linguistic and cultural backgrounds when teaching literacy. Gay (2018, 2021) emphasizes that students' cultural and linguistic resources serve as valuable tools for building instructional connections that improve academic achievement. Leveraging students' cultural identities can enhance their motivation, engagement, and ability to access prior knowledge relevant to learning tasks (Ladson-Billings, 1995). The more students know about a topic, the more likely they are to comprehend related texts.

Linguistic responsiveness, which involves recognizing and utilizing students' home language knowledge, can strengthen reading and writing skills. Educators must understand potential connections between a student's home language and their second language, such as English, to inform instruction. Many concepts related to reading and writing transfer between languages, especially in Spanish and English. For example, phoneme and grapheme knowledge can be treated as an asset for Spanish-speaking multilingual learners. While both English and Spanish share 26 letters, approximately 19 letter-sound correspondences transfer fully across the two languages. Additionally, many syntactic patterns are similar across languages (see Table 2 for examples).

Fluency Development

Developing reading fluency is crucial for comprehension. Fluent readers process text more efficiently and with appropriate expression, which aids in understanding. However, multilingual learners may struggle with fluency due to the prosodic differences of their second language. Prosody includes the rhythm, phrasing, and intonation of speech, and it can vary between languages. For example, if students have difficulty with phrasing, they may benefit from explicit instruction and repeated practice with sentence structures to better understand syntactic boundaries and expression (Breen et al., 2024; Wade-Woolley et al., 2022; See the article by Breen in this issue).

A meta-analysis by Wolters et al. (2022) found a moderate correlation (r = .51) between reading prosody and reading comprehension. This relationship remained consistent regardless of whether the language had a deep orthography, like English, or a shallow orthography, like Spanish. Therefore, both dual-language and English as a Second Language (ESL) learners

Table 2

Similarities and Differences Between English and Spanish Syntax

English	Spanish
Nouns name a person, place, thing, or idea.	Nouns name a person, place, thing, or idea.
Nouns have gender when referring to male or female individuals.	Nouns have gender and are classified as masculine or feminine.
Subject dropping (i.e., leaving out the subject) is not allowed.	Subject dropping is allowed.
Proper nouns are capitalized.	Proper nouns are capitalized, but common nouns, such as days of the week and months, are not.
Verbs describe actions.	Verbs describe actions.
Verbs have present and past tenses.	Verbs have present tense but multiple past tense forms.
Adverbs modify verbs.	Adverbs modify verbs.
Adverbs can be comparative or superlative.	Adverbs can be comparative or superlative.
Adjectives modify nouns.	Adjectives modify nouns.
Adjectives appear before the noun.	Adjectives appear after the noun.

Source: Adapted from Cárdenas-Hagan, 2018

Example

Instructional Support for English Learners: Syntax, Fluency, and Comprehension

Student reads sentence: "In the field last week, I saw Juan."

Teacher responds: "Let's remember, that in this case, the pronoun **I** is at the beginning of the sentence. In your home language, you might drop the subject, so you may not be accustomed to using the pronoun **I** at the beginning of the sentence as in English. Now, listen to how I read the sentence with the pronoun at the beginning (syntax). Also, my phrasing and expression (fluency) may help you understand the sentence (comprehension)."

My Turn: "I saw Juan in the field last week."

All Together: "I saw Juan in the field last week."

Your Turn: "I saw Juan in the field last week."

Teacher asks: "Can you identify the pronoun in the sentence?"

Student: "Yes, the pronoun is I."

Teacher asks: "Who else is the sentence about?"

Student: "Juan."

Teacher: "Yes, the sentence is also about Juan. Where was Juan?"

Student: "He was in the field."

Teacher: "When was Juan seen?"

Student: "He was seen yesterday."

Teacher: "Very good. You read the sentence with the correct word order, with nice accuracy and prosody. You also understand the meaning of the sentence."

can benefit from prosody-focused instruction that also highlights sentence structure and language cadence.

Table 2 highlights some similarities and differences in English and Spanish syntax that can inform reading and writing instruction.

The information in Table 2 is helpful to consider when responding to multilingual learners' syntactic error patterns. For example, during a lesson, a Spanish speaker may find it difficult to understand the word order of English or understand that the subject cannot be dropped in English, as it is in Spanish. This word order difficulty can cause confusion for the reader as well as affect fluency and comprehension. The student will require explicit instruction and well-designed syntax practice to achieve an understanding of the text (see Example). Language-sensitive explicit syntax instruction — paired with repeated readings that model phrasing and expression — can significantly improve students' fluency and contribute to better reading comprehension.

Instructional Considerations for Multilingual Learners

To support reading comprehension for multilingual students, educators should consider the following practices:

- Leverage students' home languages and make cross-linguistic connections to reinforce foundational and reading comprehension skills.
- Provide explicit syntax instruction that incorporates an analysis between the students' home language and English.
- Include fluency instruction that emphasizes prosody, with extensive modeling of phrasing and expression.
- Celebrate linguistic diversity and the assets multilingual learners bring to the classroom, as also referenced by Murray et al. in this issue.

By incorporating these culturally and linguistically responsive teaching practices, educators can foster an inclusive learning environment that supports multilingual students in becoming confident and proficient readers and writers.

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RESOURCES FOR ADDITIONAL LEARNING

- **Dr. Cárdenas-Hagan's website**
  https://www.valleyspeech.org
- **Further reading:**

  Cárdenas-Hagan, E. (2020). *Literacy Foundations for English Learners: A Comprehensive Guide to Evidence-Based Instruction*. Brookes Publishing Company.

  Cárdenas-Hagan, E. (2021). *Working with English Language Learners (WELLS) (Vol. 3)*. Valley Speech Language and Learning Center, Brownsville, TX. Pages 482–593 address the cross-language connections for syntax and written language composition.

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Elsa Cárdenas-Hagan, Ed.D., CCC/SLP, CDT, CALT, QI*, is President of the Valley Speech Language and Learning Center in Brownsville, Texas and a Research Associate with the Texas Institute for Measurement, Evaluation and Statistics at the University of Houston. Elsa has dedicated 25 years working in national research projects sponsored by the National Institute for Child Health and Human Development, the Institute of Education Sciences, a research arm of the United States Department of Education and the Office of Special Education Programs. Her research interests include the development of language and literacy skills among Spanish- and English-speaking students. She has also worked with teams of researchers designing assessments and interventions for this linguistically diverse population of students. Dr. Cárdenas-Hagan serves as the Chairperson of the National Joint Committee on Learning Disabilities, Past-Vice-Chairperson of the International Dyslexia Association, and Professional Advisory Board Member of the Learning Disabilities Association of America. Elsa was honored to receive the Margaret Byrd Rawson Lifetime Achievement Award by the International Dyslexia Association and the Luke Waites Award of Service by the Academic Language Therapy Association. Elsa currently serves on the New York City Public Schools Literacy Advisory Council and the Literacy Advisory Boards for the states of Utah and Texas. Her book entitled* Literacy Foundations for English Learners: A Comprehensive Guide to Evidence-Based Instruction *was published to help educators implement Structured Literacy among English learners.*

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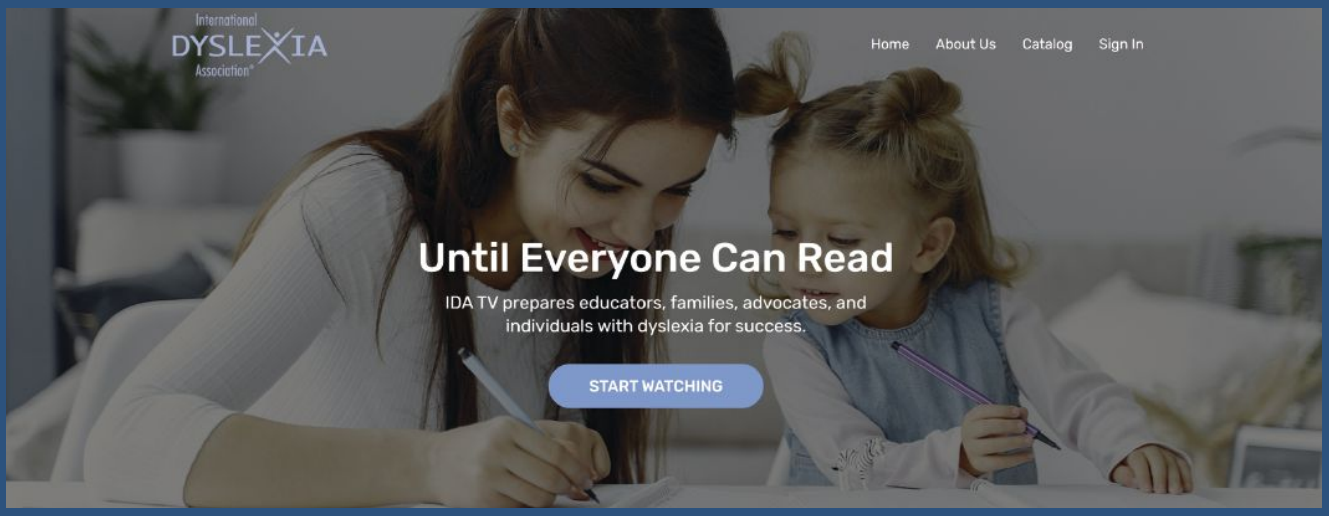

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Language Variation and Syntax
Recognizing the Linguistic Strengths of African American Children

By Bryan K. Murray, Sibylla Leon Guerrero, Katherine T. Rhodes, and Julie A. Washington; University of California, Irvine

KEY TAKEAWAYS

- Syntax in AAE is a part of a rich and complex language system.
- Children who speak dense AAE enter elementary school with strong syntactic skills.
- Students' ongoing development in syntactic production and comprehension throughout the school years demands rich, *reciprocal* language environments. This means creating opportunities for both teachers and students to share their language knowledge.
- AAE speakers' linguistic strengths are an important factor to consider and support when understanding and developing their academic competencies.

One of the most powerful steps that researchers and practitioners can take toward supporting the academic performance of African American children is to recognize their natural linguistic competence as speakers of African American English (AAE). To develop competence in reading and writing, children build on the oral and conversational language systems that they bring to school from their homes and communities (Delpit, 2012). Before and after school, these evolving language skills enable language learners to make and interpret meaningful sentences in everyday conversations and learning environments. In this article, we call for a collaborative research and instructional approach that strives to support African American children's development of oral syntax as a foundation for reading. Such an approach first recognizes child AAE speakers' specific skills in understanding and producing nuanced concepts using complex AAE syntactic structures. Secondly, it builds on the complex conversational syntax of children who speak African American English, which is critical for cultivating reading and writing competence in General American English (GAE).

Syntax in AAE is Part of a Rich and Complex Language System

AAE is a rich oral language system that impacts every domain of language, especially morphology, phonology, and syntax (Green, 2011). AAE influences the grammatical language structures of American English in predictable ways, including processes such as the deletion of copula[1] and the use of the auxiliary forms of the verb "to be." These influences are often interpreted as non-standard variations of General American English , such as using a double negative (e.g., "don't have no" instead of "don't have any"). However, AAE-speaking children learn far more than two ways of expressing a concept. Rather, at an early age, they acquire complex grammatical structures including a verb tense and aspect system with seven common past tense structures (instead of the four used by children in most conversational GAE) and multiple markers of aspect which carry nuances of meaning about intention, sequence of events, social context, and more (see Table 1).

A collaborative research and instructional approach recognizes child African American English speakers' specific skills in understanding and producing nuanced concepts using complex syntactic structures.

Much of what is known about AAE has been documented with adult language, leaving a great deal to be learned about child AAE, including how and when syntactic features are acquired, what constitutes atypical, typical, and strong language development, and how this rich and complex language system may then influence cross-dialectal language development in GAE (Green, 2011). In addition, there is variation within AAE that is affected by sociodemographic factors such as dialect density (discussed below), socioeconomic status, and gender. Increasing our understanding of syntax within AAE, especially among school-aged children, is imperative as AAE has been determined to be a highly influential source of

[1] Copula: form of the verb "to be" that serves as an "equals sign" between the subject and subject complement. For example, "She is happy" or "She is a good student."

Abbreviations

AAE: African American English
DLD: Developmental Language Disorder
GAE: General American English
SLPs: Speech-language pathologists

Table 1

Examples of Verb Tense and Aspect Structures Acquired by AAE-Speakers in Childhood

Feature name	Meaning conveyed	Example
Invariant 'BE'	Habitual actions & recurring states	*She be working on weekends.*
Preverbal/ preterite 'HAD'	Events already completed, particularly in a narrative sequence	*I was playing outside. Then I asked my mom for a snack. She HAD got chips at the store.*
Completive 'DONE'	States that have ended	*She DONE work all morning.*
Past 'been'	Event or state starting in relatively recent past	*I been reading that book before school today.*
Remote past 'BIN'	Lengthy event or state starting a relatively long time ago	*She BIN working as a doctor* [i.e., since a long time ago].

Note: Adapted from Green, 2011.

variation in language and literacy development of African American children (Washington et al., 2018). Indeed, AAE syntax influences both the expression of oral language, and potentially its reception as well.

Oral Syntax Is a Strength for Dense AAE Dialect Speakers

The frequency, or density, with which African American children use AAE has a strong impact on their language and literacy trajectories, even more so than the mere presence of AAE (Washington et al., 2018). Speakers of dense African American English tend to also have excellent oral syntactic skills in AAE when they enter schooling, compared to peers who produced lower density AAE (Craig & Washington, 1994). These skills are not noticed or measured in schools because AAE is not the preferred dialect of either assessment or instruction, and unfortunately these strong dialect skills are sometimes interpreted as deficient when the dominant dialect standard is GAE (Washington & Iruka, 2025).

In their seminal study, Craig and Washington (1994), revealed that urban, poor, young African-American children produced a variety of complex syntax forms during spontaneous discourse, with dense dialect users having the strongest syntactic skills overall. Children who speak a dense variant of AAE have strong syntactic skills that help them not only communicate but also learn basic reading and writing skills, like how to tell and understand complex stories. Importantly, it has been demonstrated that dense dialect speakers are able to produce more complex narrative sequences when relating stories than children with few AAE features (Ross et al., 2004).

Oral syntax, in any language or language variety, is a critical component of language that is used both to communicate efficiently and to support oral comprehension. The command of complex syntax is what is important, sometimes even more so than the dialect in which the syntax is expressed. Moreover, teachers can also involve AAE-speaking children who are learning to read in a way that capitalizes on their natural dialect-related syntax.

AAE is a viable means for promoting teaching and learning. The importance of including children's full linguistic repertoires during literacy instruction and the necessity for teachers to make accommodations for the underlying language skills of their African American students were emphasized by Washington and Iruka (2025). Teachers and speech-language pathologists can help children who speak AAE learn more about syntax without interfering with their learning. Namely, rather than pointing out what they may believe are a child's weak areas in syntax, encouraging their use of their first dialect may actually strengthen their pre-existing language skills in a way that supports broader language learning. They can accomplish this, for example, by emphasizing the reciprocity of communication — in which teachers and students share language and its meaning.

Syntactic use is dynamic in reciprocal discussions and can demonstrate the speaker's active use of language. It is also in the dynamic environment of conversations that syntax interconnects, functions, changes, and further develops. Educators and SLPs can assist children who communicate in AAE by engaging them in discussions that encourage reflection on the syntactic differences between AAE and GAE dialects that are presented in literature.

The School Years Are a Time of Continuous Growth in Syntactic Awareness and Knowledge, Both in Spoken and Written Forms

Syntactic development continues into school-age years, with conversational and reading-related syntax evolving over several years (Montag & MacDonald, 2015). Emerging readers need to distinguish between written and everyday conversations, mastering complex oral syntax like relative clauses and passive voice. Mastery of increasingly complex oral syntax, such as relative clauses and passive voice, supports reading comprehension, and conversely, engagement with reading also supports the development of adult-like syntax (Montag & MacDonald, 2015; see article on Book Language by Maryellen MacDonald in the current issue).

Currently, barriers exist to supporting students in using AAE syntax, as reading researchers and practitioners are rarely knowledgeable about, let alone proficient in, AAE and possibly view the dialect as "low-prestige" in schools. This lowered status means that the ongoing development of children's strongest linguistic assets may contribute to underestimation and lowered expectations of AAE speakers.

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AAE-Speaking Children's Linguistic Strengths Must Be a Factor in Understanding their Achievements

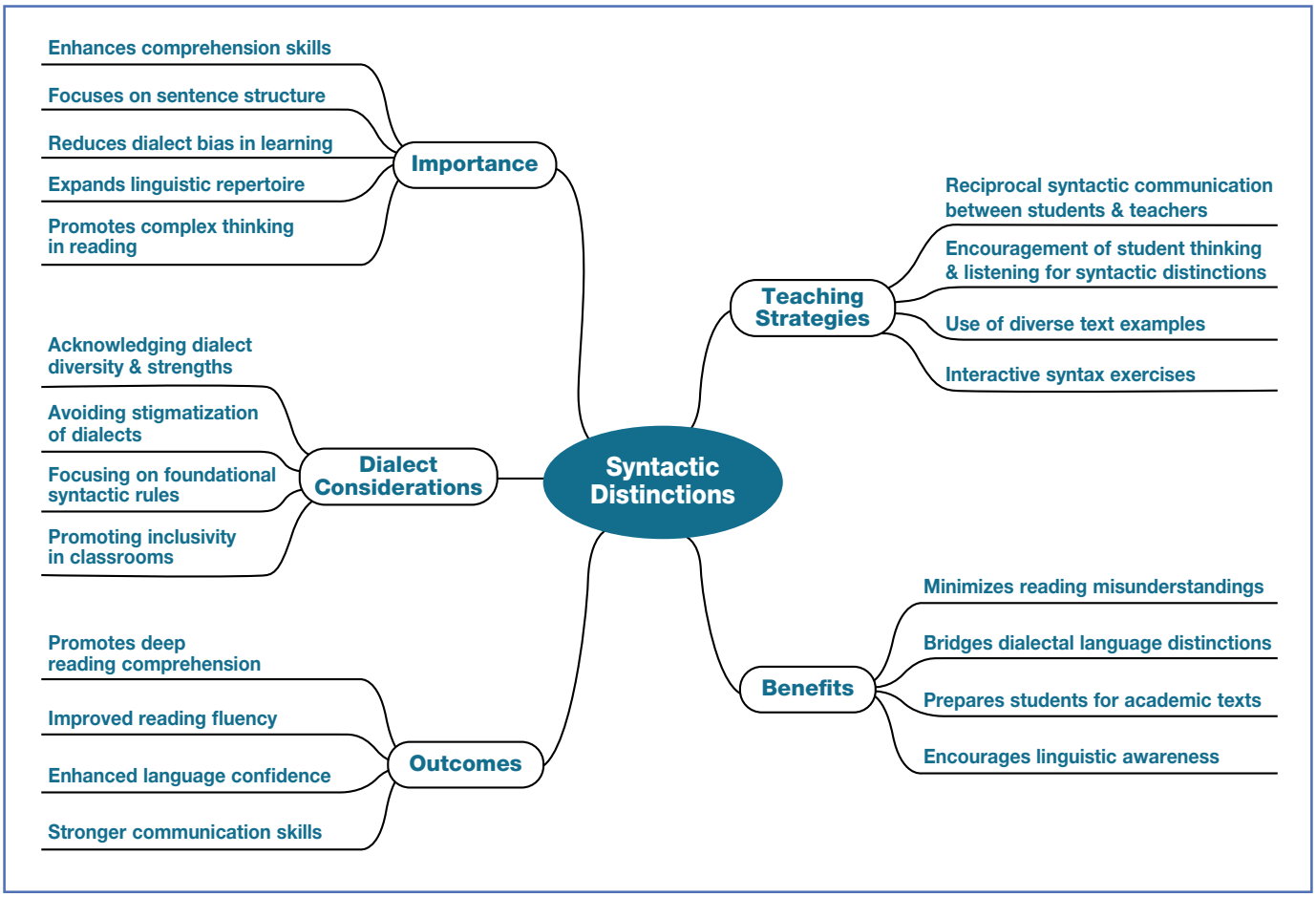
A small but growing minority of researchers, educators, and sociolinguists have argued that dialect develops within context, and bidialectal speakers, like bilinguals, would be better served by a sociolinguistically informed approach to learning academic language in which students are supported in grasping concepts and solving problems in their own strongest dialect (Murray et al., 2024). However, this approach rests on the assumption that teachers are able to provide instruction to children in a way that uses their dialect knowledge as a linguistic foundation. In a study of early childhood teachers who professed a knowledge of AAE, Washington & Iruka (2025) found that, when surveyed, these same teachers could not recognize the linguistic characteristics of AAE. Unfortunately, this is not uncommon.

It is not only important for African American children to incorporate their prior linguistic knowledge from their home and community language systems as they advance in schooling, but also for teachers and clinicians to acknowledge the importance of these skills. This thinking will require both targeted professional development and a mindset shift among adults tasked with instruction and intervention of AAE child speakers (Washington & Iruka, 2025). The goal is to eliminate any automatic tendency to count non-GAE answers as incorrect, and to instead examine whether productions are valid, culturally supported expressions in AAE.

What is needed, then, are classroom practices that directly support AAE development and simultaneously raise up dialect distinctions as a scaffold for developing language ability in General American English. Figure 1 highlights the various dimensions along which a focus on dialect distinctions can be

Figure 1

Key Focus Areas for Syntactic-Dialect Distinctions in Communication and Reading



Note: Figure 1 presents a structured overview of key focus areas that may be considered when designing lessons around dialect variation. The figure categorizes a variety of syntactic topics and provides insights into their relevance and application in educational contexts.

used to foster language development. Each category includes concise remarks or notes that emphasize the significance, relevance, or instructional techniques associated with that specific focal area. For example, AAE speakers often use progressive forms such as "been" to denote distant past events (e.g., had been gone), instead of the past perfect tense (e.g., "had gone") in conversational syntax. In the process of developing a lesson to highlight this distinction, an educator invites learners to (a) explore the meaning differences encoded in these forms (Teaching Strategies); (b) develop broad linguistic awareness (Benefits); (c) promote deep reading comprehension (Outcomes); (d) avoid stigmatizing dialects (Dialect Considerations); and (e) expand a child's grammatical repertoire. Activities that expand the mere notice of a dialect distinction along these dimensions can support learners in refining their internal grammar representations through linguistic problem solving (Bourke, 1996). This approach suggests that the focused, interactive investigation of syntactic differences provides a framework for strengthening both existing and new syntactic structures (e.g., had been gone vs. had gone).

A Call to Action

The rich, syntactic competence found within AAE speakers is often underutilized in understanding and promoting the academic achievement of African American children. Dense AAE speakers rely on their oral, conversational dialect systems to become efficient readers and writers. The oral and written systems of syntax vary across AAE and GAE, and teaching to children's prior dialect knowledge has instructional value. We propose that to be successful, instruction must use children's communication skills with complex AAE oral syntax to develop reading and writing in standardized English. Instruction and evaluation that acknowledge variations in dialects, production, and comprehension can profoundly influence students' opportunity to expand their syntactic repertoire. A collaborative approach that takes into account the current syntactic repertoire of AAE-speaking children is critical for future interdisciplinary and instructional work.

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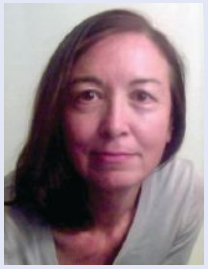
***Bryan K. Murray**, a PhD Candidate in the School of Education at the University of California–Irvine, focuses on the intersection of literacy, language variants, thinking, and learning for African American English-speaking children, focusing on syntax within-dialect use.*



***Sibylla Leon Guerrero**, a Postdoctoral Fellow in the School of Education at the University of California–Irvine, uses an interdisciplinary approach to study how early bilingual and bidialectal language experiences influence later language and literacy development.*

***Dr. Katherine T. Rhodes** is an Assistant Professor in the School of Education at the University of California–Irvine (UCI). Rhodes' research is focused on measuring children's linguistic and mathematical problem-solving, in particular, for African American English-speaking children.*

***Dr. Julie A. Washington**, a Professor in the School of Education at the University of California–Irvine (UCI), focuses on the intersection of literacy, language variation, and poverty. In particular, her work focuses on understanding the role of cultural dialect in assessment, identification of reading disabilities in school-aged African American children and on disentangling the relationship between language production and comprehension on development of reading and early language skills for children growing up in poverty.*

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Key Considerations for Assessing Syntax – Part 2

By Kelly A. Powell-Smith

KEY TAKEAWAYS

- Syntax assessments are needed to fulfill assessment purposes within an MTSS service delivery model.
- Assessments of language and syntax should be selected to ensure they meet technical standards and serve designated purposes, including providing instructionally useful information.
- Additional assessments of syntax are needed, in particular, those designed to serve screening and progress monitoring purposes.

What Kinds of Syntax Assessments Are Needed?

Language comprehension is a multifaceted skill, including morphology, vocabulary, and syntax (see Scarborough, 2001; Fedorenko and Van Dyke, Issue 1, and Powell-Smith, Issue 1). This means that assessments for reading comprehension must encompass this complexity. As I discussed in Part 1 of *Key Considerations for Assessing Syntax*, syntax plays an essential, but frequently overlooked, role in student reading comprehension. As such, increased attention is needed with respect to "how to assess" and "what to assess" regarding syntax. Without such attention, we fail to fully assess reading comprehension.

In Part 1, I also discussed the need to understand how both syntactic awareness and syntactic knowledge play a role in student reading comprehension. Definitions and sample tasks are noted in Table 1 below. While both syntactic knowledge and awareness are important, assessment of syntactic knowledge is arguably a higher priority in school settings because these tasks tap more directly into students' linguistic competence and are less susceptible to guessing. Moreover, these production tasks have a more transparent link to instruction and intervention, which may make them a better indicator of a student's response to intervention.

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Table 1

Syntax Terms, Descriptions and Sample Tasks

Term	Description	Sample Tasks
Syntactic Awareness	The understanding of syntactic structures (e.g., parts of speech, clauses, phrases) demonstrated through receptive tasks.	Listening to a sentence and then pointing to the correct picture that matches the sentence. Listening to a sentence with a word missing (i.e, verb in the correct form) and then pointing to the correct word among multiple choices to complete the sentence so it is syntactically correct. Deciding whether a heard or read sentence is grammatical (or "makes sense") or not.
Syntactic Knowledge	Tasks that require a student to demonstrate an understanding of syntax through a production task.	Organizing words presented in a mixed-up order into a syntactically correct sentence, orally or in writing. Given a sentence with a word missing, the student must provide (say or write) the correct past tense form of a target word. Identifying an error in a sentence and then explaining why it is wrong and/or fixing it (i.e., making it syntactically correct) either in speaking or writing.

Abbreviation

MTSS: Multi-Tiered Systems of Support

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Table 2

Assessment Types, Their Purpose, and Associated Assessment Questions for MTSS

Assessment Type	Purpose	Assessment Questions
Screening	Quickly identify who is on track to meet important outcomes.	1. Are there students who need additional support? 2. Which students? Who are they? 3. How many students? 4. Are we confident that the student(s) need support?
Diagnostic	Identify instructional targets and verify levels of support.	1. What skills should be targets of intervention or instruction? 2. How might we plan to address needs (e.g., materials, time, personnel, scaffolding)? 3. What are the goals for the student(s)? 4. What is our plan for progress monitoring?
Progress Monitoring	Quickly and efficiently gauge student progress toward desired goals.	1. Are students making progress toward their goals? Is the system as a whole making progress? 2. Is the support/instruction provided effective or do we need to change what we are doing? 3. If change is needed, what kind?
Outcome	Determine if a goal has been achieved.	1. Has the additional support been effective? Is our instruction effective across each tier of support? 2. Have goals been met? 3. Are there students who still need support? How many? 4. Are students meeting expectations at a broader level (e.g., state standards)?

While the informal assessments introduced in Part 1 (see Issue 1) are useful and important, schools need assessment systems in place that help ensure all students acquire syntactic awareness and knowledge. Such systems need to focus on preventing difficulties that may arise; catching difficulties early. An equally important goal is for assessments to provide instructionally useful information (i.e., instructionally diagnostic data — see Table 2), as well as data that help teachers to know when an instruction or intervention is having the desired impact (i.e., progress monitoring data). Such a system would be at the core of an effective preventative Multi-Tiered Systems of Support (MTSS) service delivery model. MTSS is a broad, but unified, means of aligning school systems and resources aimed at the success of all students across multiple areas of functioning (e.g., academic skills like reading, as well as behavior, and social-emotional functioning). Within MTSS we talk about a tiered continuum of evidence-based supports. Within such a system, we need assessments to address specific purposes and answer specific questions. I have delineated the four types of assessment needed for MTSS, their purposes, and the questions they should answer in Table 2. Even in schools without MTSS fully in place, there are multiple types of assessments often conducted on a routine basis to make a wide variety of decisions like those noted in Table 2. The characteristics noted in the table apply to all assessments used to make school-based decisions, including those for syntax. While there are many assessment tools for essential literacy skills (e.g., decoding, oral reading fluency) aligned with the four assessment purposes noted in the table, few are available for language skills, in particular syntax. For additional information about the types of assessments and their use, you may wish to read the blog linked here or view the webinar linked here.

The characteristics noted in the table apply to all assessments used to make school-based decisions, including those for syntax.

What Should We Look for with Each Assessment Type?

Important characteristics of each assessment type are noted in Table 3. While these characteristics apply across skill areas, they are noted here for educators to consider as they look for assessments that capture syntax (e.g., when considering assessments listed in Table 4). Characteristics like "technical adequacy suitable for the purpose and decision," cut across all assessment types. Educators may wonder what it means to have "technical adequacy suitable for the assessment's purpose and the decision to be made." One way to understand this is to consider the difference between low-stakes and high-stakes educational decisions. High-stakes decisions (e.g., determining special education eligibility) can have long-term and

potentially life-altering implications (good or bad). Low-stakes decisions, in contrast, serve formative purposes (e.g., guide instruction), are ongoing (i.e., they are revisited frequently), and have less potential for life altering consequences (especially of the damaging sort). It is suggested that the standards considered adequate for one aspect of technical adequacy, that is reliability, be stricter when the stakes are higher (see Figure 1).

Reliability is how consistently a test measures a skill (e.g., from one point in time to another).

Turning now to the individual assessment types, an important characteristic to consider with respect to screening assessments is diagnostic accuracy. Because screeners are designed to be efficient, they often only capture key indicators of broader skills and not all aspects or dimensions of them. When a screener demonstrates diagnostic accuracy it means that the screener accurately predicts a student's status with respect to a particular outcome on that broader skill. For example, the accuracy with which a third-grade reading screener given at the beginning of the year predicts reading proficiency on the statewide test given at the end of third grade. Given that error is always present when making such predictions, the question for

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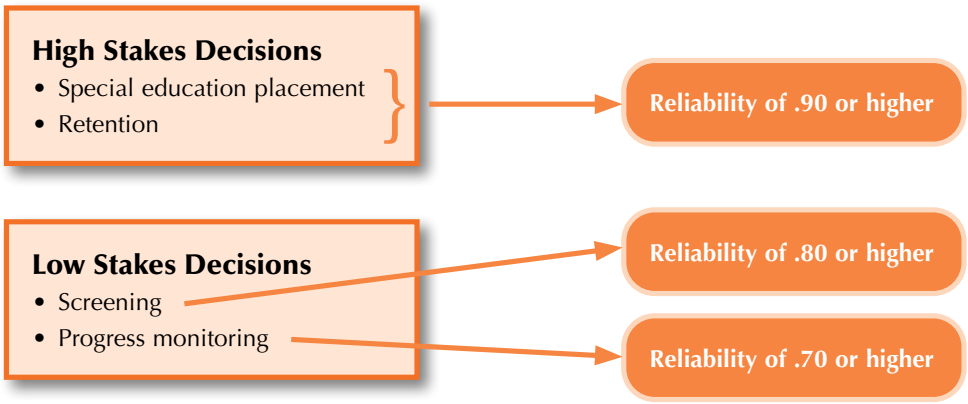
Table 3

Important and Desirable Characteristics for Each Assessment Type

Assessment Type	Important and Desirable Characteristics
Screening	1. Efficient and economical 2. Indicator of a broader skill 3. Universal (can be given to all students with response capabilities) 4. Provides information about who is or is not on track 5. Uses standardized procedures 6. Strong technical adequacy – suitable for the purpose
Diagnostic	1. More time than screening, but still time and cost efficient considering their purpose 2. Sufficiently comprehensive enough to provide specific information for differentiating instruction. 3. Aligned to the essential skills students must learn (e.g., phonemic awareness, decoding, language, etc.) 4. User friendly and adaptable across settings and populations 5. Strong technical adequacy – suitable for the purpose
Progress Monitoring	1. Efficient, brief, low-cost indicators of a broader essential skill 2. Sensitive to small changes in student performance over time 3. Repeatable (e.g., alternate forms of approximately equal difficulty are available) 4. Easily understood by educators and caregivers/parents 5. Strong technical adequacy – suitable for the purpose
Outcome	1. Efficient and economical 2. Indicator of a broader skill 3. Universal (can be given to all students with response capabilities) 4. Provides information about who is or is not on track 5. Uses standardized procedures 6. Strong technical adequacy – suitable for the purpose

Figure 1

Sample Reliability Standards for Different Types of Decisions from Ysseldyke et al. (2023)



educators is what type of error is tolerable. For example, is it tolerable to identify more students at risk than really are at risk? Alternatively, is the under-identification of students who really are at risk, tolerable? Informing these decisions with progress monitoring data can be beneficial. Over-identification at screening might be more tolerable if we use our progress monitoring data to dynamically correct initial decisions (i.e., we can easily reduce support when progress data indicate it is unnecessary). Under these conditions, over-identifying students during screening might be more tolerable than missing students who really need support.

Assessing syntax is particularly important if we wish to apply a preventative MTSS service delivery approach to addressing all aspects of literacy development.

Progress monitoring assessments for syntax could play a key role not only in potentially correcting screening errors, but also for knowing when our syntax instruction is having the impact we desire. Progress monitoring data is valuable because it provides teachers with feedback on whether their instructional methods are effective, ensuring that effective strategies are continued and ineffective strategies are adjusted or discontinued. Progress monitoring data enable teachers to make real-time educational decisions, much like adjusting our route when a GPS indicates we're off course.

Diagnostic assessments that are designed to identify specific instructional targets are especially important as part of the data-based individualization process often necessary for the highly individualized interventions at Tier 3 (National Center on Intensive Intervention, n.d.). When considering diagnostic assessment, key areas include syntactic knowledge tasks that assess sentence-level comprehension, grammatical understanding, sentence structure, and prosody in reading.

Sample Assessments That Include Syntax

I have compiled a list of assessments that capture syntax skills in Table 4. The information in the table is not exhaustive, and while assessment type is noted, it is based upon author/publisher designation. Educators might consider evaluating each assessment to determine its adequacy for the specific purpose in line with the information presented in Tables 2 and 3. A brief description is provided including whether the assessment requires a production response (knowledge and application) or a selection response (processing/awareness task). The description column includes the types of tasks/items that are included for assessing language, including syntax. With respect to diagnostic assessment, it's important to determine whether the assessment provides instructionally relevant data aligned with a systematic data-driven and evidence-based approach to addressing individual student needs (i.e., data-based individualization framework) (Welland et al., 2024). Assessments of syntax knowledge will be most relevant for instructional decision making. This means that those assessments requiring a production response (e.g., the student must perform the skill of interest), instead of a selection response (e.g., the student points to their answer or selects from multiple choices), will be of greatest value when determining instructional targets for teaching. Finally, the table indicates whether technical data are available for review, but not whether those data demonstrate adequacy for the assessment's purpose.

Syntax Assessment Challenges

Key areas of syntax assessment involve sentence-level comprehension, grammar, as well as prosody (see Powell-Smith in Issue 1, and Breen in the current issue). One challenge practitioners face is the availability of tools for screening and progress monitoring. While many assessment tools for essential literacy skills (e.g., decoding) align with the four assessment purposes in MTSS, fewer are available for language skills such as syntax in particular, and screening and progress monitoring tools are especially limited. Some promising work is occurring in this area (e.g., *SC Classroom Screen* – see Table 4). Another challenge is related to determining what aspects of syntax are assessed by various tests. As noted in Part 1 (see Powell-Smith, Issue 1), universal agreement on terminology is elusive and many assessments don't make it clear whether they measure syntactic knowledge or syntactic awareness. Often an educator must make this determination based on their own understanding of knowledge vs. awareness tasks, as described here. Compounding this challenge is that sufficient information to make this determination may not be available without purchasing an assessment for closer examination.

Two challenges present themselves with respect to the diagnostic category of assessments. The first is that the distinction between diagnostic for instructional purposes and diagnostic for identifying a disability is not always clear and may overlap in some instances. A second challenge is related to the scope of assessment. Given that most assessments only capture some aspects of syntax, it is especially important to consider triangulating information across assessments to establish a clear picture of student skill and inform instructional decision making. For example, if a student exhibits difficulties on more than one type of syntactic task, that would be indicative of a need for broad concern compared to if they only have difficulty on one particular type of task. Furthermore, linking diagnostic assessment data to instruction is an important part of MTSS. As such, diagnostic assessments that make that linkage more explicit are highly valued. Some examples of syntax assessment tasks and linkages to instructional ideas are noted in Table 5.

As noted in Part 1, challenges also exist regarding syntax assessment that considers cultural and linguistic diversity. Educators need to be mindful especially with published assessments. What is considered a "correct response" may only reflect General American English and not take into

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Table 4

Sample Assessments That Capture Syntax Skills

Title	Type[a]	Brief Description	Where to Obtain More Information
Acadience Reading Diagnostic: Comprehension, Fluency, and Oral Language ☑ Commercially Available ☑ Technical Data Available	Diagnostic[b]	Assesses a range of language skills including prosody while reading, sentence-level comprehension, understanding of sentence structure, and grammar. Most tasks involve production responses. The tasks span grades K to 4, but the test may be used above grade 4 to inform instruction.	https://acadiencelearning.org/acadience-reading/diagnostic https://www.voyagersopris.com/products/assessment/acadience-reading-diagnostic/overview
Adolescent Assessment of Literacy (AAL) ☑ Commercially Available ☑ Technical Data Available	Screener	Developed to be used as a fall (beginning of year) screening tool for literacy skills. The Syntactic Knowledge Task is designed to assess syntactic awareness and requires a selection response. Grades 3 to 12.	https://qmi-fcrr.shinyapps.io/AALiteracy https://qmi-fcrr.shinyapps.io/AALiteracy/_w_8b6bedd1/AAL%203-12%20Tech%20Manual.pdf
Capti Assess with ETS Readbasix[c] ☑ Commercially Available ☑ Technical Data Available	Diagnostic	Assesses a range of language skills including vocabulary, morphology, and sentence processing. The sentence processing subtest captures student skill in comprehending sentences of varying levels of syntactic complexity, including sentences that use complex syntactic structures often found in textbooks and academic writing. All tasks require a selection response. Grades 3 to 12.	https://www.serpinstitute.org/reading-assessment https://onlinelibrary.wiley.com/doi/full/10.1002/ets2.12269
Clinical Evaluation of Language Fundamentals (CELF-5) ☑ Commercially Available ☑ Technical Data Available	Diagnostic	Assesses a range of language skills including syntax. Three tasks (Formulated Sentences, Recalling Sentences, Sentence Assembly) index syntax using production responses. Ages 5 to 21.	https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Speech-%26-Language/Clinical-Evaluation-of-Language-Fundamentals-%7C-Fifth-Edition/p/100000705 https://www.pearsonclinical.ca/content/dam/school/global/clinical/ca/assets/celf-5/celf-5-test-objectives-and-descriptions-can.pdf
Comprehensive Assessment of Spoken Language-Second Edition (CASL-2) ☑ Commercially Available ☑ Technical Data Available	Diagnostic	Evaluates language processing skills including syntax. Five subtests related to syntax are included: Syntax Construction, Comprehension of Syntax, Grammatical Morphemes, Sentence Comprehension of Syntax, Grammaticality Judgment. The subtests require a mixture of production and selection responses. Ages 3 through 21.	https://www.pearsonassessments.com/campaign/casl-technical-information
CUBED-3 Narrative Language Measure ☑ Commercially Available ☑ Technical Data Available	Screening & Progress Monitoring	The NLM subtests of the CUBED-3 assess students' comprehension and production of complex academic language. Retell components require a production response and assess syntax as part of the prosody ratings. Grades Pre-K to 8.	https://www.languagedynamicsgroup.com/cubed

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[b] The word "Diagnostic" with respect to CFOL refers to identifying instructional targets, not identifying a specific learning difficulty or disorder.
[c] The Capti Assess was formerly known as the *RISE (Reading Inventory and Scholastic Evaluation) assessment*.
[d] The publisher notes utility for progress monitoring, but the availability of alternate forms is not noted.

Key Considerations for Assessing Syntax

Title	Type[a]	Brief Description	Where to Obtain More Information
Developmental Sentence Scoring (DSS) ☐ Commercially Available ☐ Technical Data Available	Diagnostic (informal)	Analyzes the syntactic complexity of children's spontaneous speech. Scores sentences based on the presence and correctness of various grammatical forms and structures. Production response required. Ages 2.5 to 7.	Lee, L. L., & Canter, S. M. (1971). Developmental sentence scoring: A clinical procedure for estimating syntactic development in children's spontaneous speech. *Journal of Speech and Hearing Disorders, 36*(3), 315–340. https://doi.org/10.1044/jshd.3603.315
Diagnostic Evaluation of Language Variation (DELV) ☑ Commercially Available ☑ Technical Data Available	Screening (DELV-Screening Test) & Diagnostic (DELV-NR)	Assesses language skills with a focus on dialect-neutral evaluation, including syntax. According to the vendor, the tasks are "designed to measure a child's understanding of complex wh-questions, passives, and the use of articles ("the" and "a") in different contexts." Tasks require a mixture of production and selection responses. Ages 4 through 12.	https://www.ventrislearning.com/delv
Language Sample ☐ Commercially Available ☐ Technical Data Available	Diagnostic (informal)	Assessors collect and transcribe language samples, then analyze them for syntactic structures, complexity, errors, and variety. Wide age range including school-age children.	https://pubs.asha.org/doi/10.1044/2021_LSHSS-21-00026 https://leader.pubs.asha.org/do/10.1044/the-how-and-why-of-collecting-a-language-sample/full
Language Screen ☑ Commercially Available ☑ Technical Data Available	Screening & Progress Monitoring	Assesses a variety of oral language skills, including syntax (i.e., sentence repetition subtest, which requires production). Ages 3.5 to 11.	https://oxedandassessment.com/us/languagescreen
Preschool Language Scale, Fifth Edition (PLS-5) ☑ Commercially Available ☑ Technical Data Available	Diagnostic	The PLS-5 does not have a subtest dedicated to syntax, but assesses syntax as part of its evaluation of a child's expressive and receptive language skills. Tasks require a mixture of production and selection responses. Ages birth through 7.	https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Speech-%26-Language/Preschool-Language-Scales-5-Screening-Test/p/100000212
Quick Interactive Language Screener (QUILS) ☑ Commercially Available ☑ Technical Data Available	Screener	Designed to assess vocabulary, syntax and language acquisition in young children. It is web-based and requires selection (not production) responses. Ages 3 through 6.	https://products.brookespublishing.com/Quick-Interactive-Language-Screener-QUILS-P1029.aspx https://quilscreener.com/wp-content/uploads/2017/08/Evidence-for-QUILS.pdf
The Renfrew Language Scales – Action Picture Test ☑ Commercially Available ☐ Technical Data Available	Screening	Elicits spoken language samples from children to assess their use of grammatical structures and information content (e.g., word usage, verb tense, irregular plurals and past tense forms, sentence complexity, and passive voice). Requires production responses. Ages 3 to 8.	https://thebrainary.com/product/the-renfrew-language-scales-action-picture-test/?srsltid=AfmBOopVBB3iFUs7WZtN6eEMzg8lxMFsb2Y4W9XOmcBoCF1j5bZq6wYC

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[c] The Capti Assess was formerly known as the *RISE (Reading Inventory and Scholastic Evaluation) assessment*.
[d] The publisher notes utility for progress monitoring, but the availability of alternate forms is not noted.

Title	Type[a]	Brief Description	Where to Obtain More Information
Rice/Wexler Test of Early Grammatical Impairment (TEGI) ☐ Commercially Available ☑ Technical Data Available	Screening & Diagnostic	Measures specific grammatical structures like tense marking. Tasks require production responses. Ages 3 through 8.	https://kuscholarworks.ku.edu/entities/publication/e0d75c05-6524-44c2-a93d-53e8911c2fce
SC Classroom Screen ☐ Commercially Available ☐ Technical Data Available *(coming soon)*	Screening	Items assess comprehension of basic and complex sentences containing grammatical structures known to be difficult for children with language and reading comprehension difficulties. The measure was developed for group administration to students in Grades K–2.	Email Dr. Suzanne Adlof and her team at: scroll@mailbox.sc.edu
Test of Adolescent and Adult Language-4th edition (TOAL-4) ☑ Commercially Available ☑ Technical Data Available	Diagnostic	The TOAL-4 assesses spoken and written language skills. The sentence combining subtest assesses syntax and requires a production response. Ages 12 through 24.	https://www.proedinc.com/Products/12580/toal4-test-of-adolescent-and-adult-languagefourth-edition.aspx
Test of Integrated Language and Literacy Skills (TILLS) ☑ Commercially Available ☑ Technical Data Available	Screening & Diagnostic	Listening and Reading Comprehension subtests index student understanding of complex syntax found in academic language (selection response tasks). The Written Expression task includes a sentence combining score (production task). Ages 6 to 18.	https://tillstest.com/about
Test of Language Development (TOLD) (includes TOLD-I5 & TOLD-P5) ☑ Commercially Available ☑ Technical Data Available	Diagnostic & Progress Monitoring[d]	Measures various aspects of language including syntax. TOLD-I5 tasks that assess syntax: Sentence Combining, Word Ordering, and Morphological Comprehension. TOLD-P5 tasks that assess syntax: Syntactic Understanding, Sentence Imitation, and Morphological Completion. Both tests require a mixture of production and selection responses. TOLD-I5 is for ages 8 through 17. TOLD-P5 is for ages 4 through 8.	https://www.proedinc.com/Products/14850/toldi5-test-of-language-developmentintermediate-fifth-edition-complete-kit.aspx https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Speech-%26-Language/Test-of-Language-Development%E2%80%93Primary%3A-Fifth-Edition/p/100002033
Test for Reception of Grammar (TROG-2) ☑ Commercially Available ☑ Technical Data Available	Diagnostic	Using pictures to test understanding of various grammatical structures. Selection responses required. Ages 4 to adult.	https://www.pearsonclinical.ca/store/caassessments/en/Store/Professional-Assessments/Speech-%26-Language/Test-for-Reception-of-Grammar%E2%80%94Version-2/p/P100008258

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consideration dialect differences or language variation. One assessment, the *Diagnostic Evaluation of Language Variation* (DELV) assessment, is described as emphasizing the components of language that are neutral across variations of English. Regardless of assessment choice, being sensitive to these issues will help to ensure that our evaluations are not biased (see Gatlin-Nash in Issue 1; as well as Murray et al. and Cárdenas-Hagan in this issue). Where these concerns exist, educators may address language variation by using informal assessments closely tied to instruction and/or applying more structured assessments (i.e., commercially available) in a flexible, dynamic manner. Finally, for some commercial assessments, there may be challenges related to assessment costs (i.e., some are very expensive) and the need for specialized training or certification to purchase or use the assessment.

Conclusions

Schools spend a lot of time and resources on assessment. Thus, it's worth considering the return on that investment and how to maximize it. Evidence that we are making wise assessment choices is in the outcomes we achieve through their use. It is not enough for assessments to be designed for a specific purpose and technically adequate. Assessment use should lead to improved outcomes. Practically speaking, what this means is that assessments should inform instructional decisions leading to better student outcomes; we should not be assessing merely for the sake of doing assessment (e.g., to check off a box on a list of things to do). The consequences of assessment use, both intended and unintended, should be examined (Messick, 1995). Educators should steer clear of low-value assessments that lack compelling scientific support for their use and take resources away from more effective practices or instruction (Dombrowski et al, 2021). Because language skills should be addressed in instruction alongside decoding skills from the start of reading instruction, we also must screen for difficulties in both (see Adlof & Hogan, 2019). To a large extent, the assessment of language skills, and in particular syntax, has not been an integral part of the MTSS process. Given its critical role in the development of comprehension, assessing syntax is particularly important if we wish to apply a preventative MTSS service delivery approach to addressing all aspects of literacy development.

Calls to Action

- Educators will want to consider assessment purposes and indicators of quality when selecting assessments. Consider what helps you make better decisions and results in improved outcomes. Think low-stakes. For diagnostic assessments, consider instructional implications rather than "diagnosing" a problem or disability.
- Researchers and vendors are called to develop and validate additional screening and progress monitoring measures for syntax. Additional research is needed on diagnostic assessments as well. Consider how to increase accessibility to educators.
- Policymakers should focus on a more comprehensive assessment of reading comprehension which includes the assessment of language skills, in particular syntax. Focus assessment policy on practices that are (a) useful within an MTSS service delivery model, and (b) are directly useful to teachers in their instructional planning.

Table 5

Sample Syntax Assessment Tasks and Linkages to Instructional Tasks

Syntax Assessment Task	Example	Instructional Task(s)
Sentence anagrams/ assembling mixed up sentences.	*The student is provided with a sentence in a mixed-up order and asked to provide a syntactically correct sentence — "dog furry the followed we around," would need to be stated as "We followed the furry dog around."*	• Work on sentence building and formulation skills, including manipulating word order in sentences, focusing on correct syntax. Build up to longer, compound and complex sentences.
Given a sentence with a word missing the student must provide the correct past tense form of a target word.	*"Run. Today I will run. While at the park yesterday, I _____ (ran)."*	• Work on tense marking — the understanding of past, present, and future tense.
Given a sentence with a word missing the student must provide the correct plural form of a target word.	*"Cookie. I took one cookie but grabbed another. Now I have two _____ (cookies)."*	• Work on number marking — the understanding of the distinction between singular and plural.

RESOURCES

- Blog and Webinar on Aligning Assessment to Meet Schoolwide Literacy Needs
- DLD Screening Tests Fact Sheet
- Comprehensive Review of DLD Screeners
- Evidence Advocacy Center Assessment Resource Menu
- How to Conduct an Assessment Audit in Your School
- The Four Purposes of Assessment in MTSS

  Information about the four purposes of assessment in Multi-Tiered Systems of Support, with examples and non-examples. Also includes a comparison of screening and diagnostic assessment characteristics
- Blog on the Characteristics to Look for in Screening Assessments

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***Kelly A. Powell-Smith, Ph.D., NCSP**, Professor of Reading Science at Mount St. Joseph University. Dr. Powell-Smith is the former Chief Science Officer at Acadience Learning. She is the lead author on* Acadience RAN, Acadience Reading Survey, Acadience Reading Diagnostic: Phonemic Awareness and Word Reading & Decoding, Acadience Reading Diagnostic: Comprehension, Fluency, and Oral Language, and Acadience Spelling, *as well as co-author of* Acadience Reading K–6 *and* Acadience Reading 7–8. *Dr. Powell-Smith obtained her doctorate in school psychology from the University of Oregon. She has served as an Associate Professor of School Psychology at the University of South Florida, faculty associate of the Florida Center for Reading Research, and consultant with the Eastern Regional Reading First Technical Assistance Center. She currently serves on the editorial boards of* Journal of Evidence Based Practices for Schools, School Psychology Review, School Psychology Forum, Single-Case in the Social Sciences, *and* The Elementary School Journal. *Dr. Powell-Smith is currently co-team leader of the special education team for the Evidence Advocacy Center and a member of the workgroup on teaching single case designs in higher education. Her work has been cited in more than 216 professional journals. Dr. Powell-Smith has provided training in assessment and intervention in 23 states and Canada and conducted over 290 national, state, and regional workshops and presentations. Dr. Powell-Smith is passionate about improving students' educational outcomes, in particular related to literacy.*

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GUIDE TO SYNTAX AND LANGUAGE COMPREHENSION RESOURCES

Julie A. Van Dyke & Kelly A. Powell-Smith

This guide provides a compilation of resources; some are referenced in the two-part series **Syntax Comes First** and others are listed here for the first time. It is intended to serve as a quick reference for educators as they work to develop syntax knowledge in their students.

This guide is not intended to be comprehensive, but will serve as the basis for a new Fact Sheet on the International Dyslexia Association website. We would be grateful for readers' assistance with adding more resources to this document. Contact Julie Van Dyke at **julie.a.vandyke@gmail.com** or Kelly Powell-Smith at **kelly.powell-smith@msj.edu** with suggested additions.

GUIDE TO SYNTAX AND LANGUAGE COMPREHENSION RESOURCES

Books & Articles

- Balthazar, C. H., & Scott, C. M. (2024). Sentences Are Key: Helping School-Age Children and Adolescents Build Sentence Skills Needed for Real Language. *American Journal of Speech-Language Pathology, 33*(2), 564–579.
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- Eberhardt, N., & Gordon-Pershey, M. (2013). Syntax: Its Role in Language and Literacy. *Perspectives on Language and Literacy, 39*(3). International Dyslexia Association.
- Florey, K. B. (2007). *Sister Bernadette's Barking Dog: The Quirky History and Lost Art of Diagramming Sentences*. Houghton Mifflin Harcourt.
- Gordon-Pershey, M. (2022). *Grammar and Syntax: Developing School-Age Children's Oral and Written Language Skills*. Plural.
- Justice, L. M., & Ezell, H. K. (2016). *The Syntax Handbook: Everything You Learned About Syntax—But Forgot*. Pro-Ed.
- MacKay, E., Lynch, E., Sorenson Duncan, T., & Deacon, S. H. (2021). Informing the Science of Reading: Students' Awareness of Sentence-Level Information is Important for Reading Comprehension. *Reading Research Quarterly, 56*, S221–S230.
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- Stone, L. (2024). *Language for Life: Where Linguistics Meets Teaching*. Routledge.

Webinars

- FluentU: How to Teach Syntax to ESL Students: A Complete Guide
- Right to Read Project – Bridging research to practice.
  - Charles Haynes, MaryKate DeSantis & Susan Lambrecht Smith – Part 1
  - Julie Van Dyke
  - Maryellen MacDonald
- William Van Cleave: Syntax Matters Webinar

Classroom Resources

- Complex Sentence Intervention (CSI): Balthazar, C. H., & Scott, C. M. (2018). Targeting Complex Sentences in Older School Children With Specific Language Impairment: Results From an Early Phase Treatment Study. *Journal of Speech, Language, and Hearing Research*, 61(3), 713–728.
- Gillis, M. B. & Eberhardt, N. C. (2017). *Literacy How Professional Learning Series. Syntax: Knowledge to Practice*. Amazon.com
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- Hennessy, N. L. (2020). *The Reading Comprehension Blueprint: Helping Students Make Meaning of Text*. Brookes.
- Hennessy, N. L. & Salamone, J. A. (2024). *The Reading Comprehension Blueprint Activity Book: A Practice and Planning Guide for Teachers*. Brookes.
- Janetos, H. (2024). *From Sound to Summary: Braiding the Reading Rope to Make Words Make Sense*. Amazon.com
- Jennings & Haynes (2018). *From Talking to Writing: Strategies for Supporting Narrative and Expository Writing, 2nd Edition*. Landmark School Outreach.
  - Reproducibles
- Reading Universe: Syntax Resources

Assessment Resources

- See Table 4 in Powell-Smith, Issue 2.
- Suggestions for what to look for in language samples
  - Cahill, P., Cleave, P., Asp, E., Squires, B., & Kay-Raining Bird, E. (2020). Measuring the Complex Syntax of School-Aged Children in Language Sample Analysis: A Known-Groups Validation Study. *International Journal of Language & Communication Disorders, 55*(5), 765–776.
  - Scott, C. M., & Stokes, S. L. (1995). Measures of Syntax in School-Age Children and Adolescents. *Language, Speech, and Hearing Services in Schools, 26*(4), 309–319.

Digital Resources

- Anatomy of a Sentence
- Cascade Reading
  - Lessons plans for teaching with Cascade
  - Webinars about using Cascade
- The Coh-Metrix Common Core Text Ease and Readability Assessor (T.E.R.A.)
  - Access the desktop version here.
- The Informed SLP Grammar Guide
- The Kastner Collection: Syntax
- Juicy Sentence Guidance
- Sortegories™
- Syntax Project

Writing Resources

The main thesis of our Syntax Comes First theme is that syntax instruction must be a central component of reading instruction, as it is a crucial foundational skill for reading comprehension. We therefore made a conscious choice *not* to present articles that discuss syntax in the context of writing. Nevertheless, many excellent suggestions for classroom activities to build syntax skills can be found in sources designed to address writing. We include a few of them here.

- Hochman, J., Wexler, N., & Maloney, K. (2024). *The Writing Revolution 2.0. A New Guide to Advancing Thinking Through Writing in All Subjects and Grades*. Jossey-Bass.
  - Reviewed by Eberhardt, N. (2018). *Perspectives on Language and Literacy, 44*(2), 45–46. International Dyslexia Association.
- Leslie Laud: Sentence Writing K-12
- Saddler, B. (2012). *Teacher's Guide to Effective Sentence Writing*. The Guilford Press. Amazon.com
- Sedita, J. (2022). *The Writing Rope*. Brookes.
  - Teaching Sentence Structure – Part 1
  - Teaching Sentence Structure – Part 2
- Shawn Datchuk: Sentence Writing Instruction and Practice
- Van Cleave, W. (2012). *Writing Matters: Developing Sentence Skills in Students of All Ages*. *WVCED*.
  - Grammar Builder Charts

Language Variation

African American English

- See Gatlin-Nash, Issue 1, Resources.
- African American Language Rules List
- Charity Hudley, A. H., & Mallinson, C. (2010). *Understanding English Language Variation in U.S. Schools (Multicultural Education Series)*. Teachers College Press.
- Hollie, S. (2017). *Culturally and Linguistically Responsive Teaching and Learning – Classroom Practices for Student Success, Grades K-12 (2nd Edition)*. Shell Education Pub.
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- Video: Teaching African American Children to Read, Julie Washington
- Video/Podcast: Valuing English Language Varieties, Brandy Gatlin-Nash
- Washington, J. A., & Seidenberg, M. S. (2021). Teaching Reading to African American Children: When Home and School Language Differ. *American Educator, 45*(2), 26.

English Language Learners

- See Cárdenas-Hagan, Resources for Additional Learning, Issue 2.
- Colorín Colorado
- Webinar: Literacy Foundations for English Learners: Sentence Writing, Elsa Cárdenas-Hagan
- WIDA (Wisconsin Center for Education Research)

Training

- CORE Learning
  - Elementary Reading Academy
  - Online Language and Literacy Academy (O&LA)
- *Language for Life* Online Course (PD340)
- Literacy How
  - Syntax: Knowledge to Practice online course
- The Reading League Online Academy
  - Syntax Seminar with Julie Van Dyke
- Shape Coding
  - Online Courses

Key Takeaways

from "Syntax Comes First: Understanding How Syntax Is The Backbone of Comprehension"

Below are key takeaways compiled from across all the articles in the two-part issue.

1. What Teachers Need to Know

(ideas for professional development)

a. Basic understanding of the Science of Language Comprehension and its impact on student development:

i. Syntax is the creative engine that powers language use. Its rules allow us to create an infinite number of novel sentences to express complex meaning (Introduction, Issue 1; Buggy and Dillon, Issue 2).

ii. The brain processes both spoken and written language via the Language Network. This network is the *conduit* for all cognitive activities that involve language, including text comprehension and production, situation modeling, inferencing and incorporating background knowledge, and social reasoning. However, these activities are primarily carried out by non-linguistic brain networks based on inputs from the Language Network (Fedorenko, Issue 1).

iii. Comprehension happens word by word. The brain does not wait until the end of a sentence, paragraph, or text to create meaning representations (Van Dyke, Issue 1; Yacovone, Issue 1).

iv. Language is predictive at all levels (e.g., phonemic, morphemic, syntactic, semantic, discourse). Unconscious predictions occur far too fast for any conscious cue-based guessing system à la three-cueing to be useful. (Introduction, Issue 2; Buggy and Dillon, Issue 2).

v. Syntax comes into play as quickly as 1/10th of a second after recognizing a word. Because the brain immediately assigns syntactic structure without knowing what comes next, misinterpretations can occur, even for skilled readers (Van Dyke, Issue 1; Yacovone, Issue 1).

vi. Recovery from misinterpretations is difficult for those with weak syntactic knowledge, whether due to age, lack of experience, or learning disability (Van Dyke, Issue 1; Yacovone, Issue 1).

vii. Language is learned implicitly from birth, but it still must be acquired. Successful acquisition depends on language exposure (how much and what kind) and the individual characteristics of the child (typical vs. neurodiverse) (Introduction, Issue 2; MacDonald, Issue 2; Eberhardt & Gillis, Issue 2).

viii. Children can learn the syntactic patterns of their language implicitly from repeated exposure and practice; however, experience with oral language won't provide exposure to the forms relevant to understanding academic texts because these forms aren't present in everyday speech (Deacon et al., Issue 1; MacDonald, Issue 2).

ix. Developmental language disability is defined by early delays in production of correct morphology and later challenges with use and understanding complex syntactic structures.

b. Basic knowledge of syntax

i. Mastering syntactic terminology is important because it allows teachers to discuss syntax with their students (e.g., What is the subject/actor? What is the direct object? What does this adjective tell you about the subject?).

ii. Knowledge of how to do "scooping" or "chunking" in a way that is consistent with the syntactic relationships in the sentence will help when applying this instructional approach (see below).

iii. Basic understanding of how prosody works (e.g., when pauses and pitch modulations are needed and what they signal) is essential for teaching and assessment. Rubrics are a helpful place to start when evaluating prosodic expression (see sample rubrics linked in Powell-Smith, Issue 1).

2. Syntax Pedagogy

a. General approach

i. The scope and sequence for teaching syntax is iterative rather than sequential. Detailed examples of what should be taught are provided (Eberhardt & Gillis, Issue 1; Eberhardt & Gillis, Issue 2).

ii. Syntax can be integrated throughout the day in all content areas. (Eberhardt & Gillis, Issue 1).

iii. Training the Language Network requires exposure to a variety of linguistic forms that range in complexity, and especially those above the current level of instruction (Fedorenko, Issue 1; Breen, Issue 2; MacDonald, Issue 2).

iv. Students can benefit from explicit instruction that reinforces the linguistic relationships among words, but also implicit activities like repeated readings and shared read-alouds that emphasize prosodic signals in the text. Shared reading also offers an opportunity to present challenging book language in a highly supportive setting (Breen, Issue 2; MacDonald, Issue 2; Hennessy & Salamone, Issue 2).

v. Teachers can support language development throughout the school years by modeling complex language use and providing opportunities to practice syntax in rich linguistic environments (Buggy and Dillon, Issue 2).

vi. Word meanings include aspects of syntax that connect directly to the types of structures the word can occur in. Vocabulary lessons should teach more than meanings; focus on syntactic contexts and how to use them to differentiate meanings. Begin introducing new vocabulary with a simple sentence, then show the word in more complex sentences, which is where children will find them in their own reading (Van Dyke, Issue 1; MacDonald, Issue 2).

vii. Students from different language backgrounds benefit from instructional activities that create opportunities for both teachers and students to share their language knowledge (Murray et al., Issue 2).

viii. Children with Developmental Language Disorder (DLD) benefit from systematic and explicit instruction in morphological and syntactic structures. Methods that highlight syntactic forms are crucial components of classroom instruction and clinical interventions (Hogan & Van Dyke, Issue 1).

b. Classroom practices to promote syntactic knowledge (for pre-readers)

i. Introduction of grammar-relevant questions like "who is the who?" "Who is the "do"? (Eberhardt & Gillis, Issue 1; Hennessy & Salamone, Issue 2).

ii. Read alouds by the teacher of texts that are above the current level of the child. These are important for exposing learners to advanced language, and should be done with exaggerated prosody so that learners can begin to feel the rhythms of the grammar. Audiobooks can also be an important tool for exposing children to advanced language (Breen, Issue 2; MacDonald, Issue 2).

iii. Multilingual learners may struggle with fluency due to the prosodic differences of their second language. Both dual-language and English as a Second Language (ESL) learners can benefit from prosody-focused instruction (Cárdenas-Hagan, Issue 2).

iv. Teach new vocabulary in a way that emphasizes the syntactic usage as well as the meaning (Van Dyke, Issue 1; MacDonald, Issue 2).

c. Classroom practices to promote syntactic knowledge (for elementary readers). Build on the previous ideas as follows:

i. Break sentences into chunks (or phrases)—sometimes called "scooping." Evidence shows that chunking sentences at Grade 2 is a predictor of grains in reading comprehension (Deacon et al., Issue 1; Eberhardt & Gillis, Issue 2).

ii. Identify chunks of text according to the role they play in the sentence. What is the "who," "what," "when," "where," "how," and "why" of the sentence? Include questions like "which one?" or "what kind?" This approach can be used both for understanding sentences and for writing them (Eberhardt & Gillis, Issue 1; Hennessy & Salamone, Issue 2).

iii. Be on the lookout for "Sentence Troublemakers," such as length, density of ideas, number of embeddings, distance between related words, and unusual word order (Hennessy & Salamone, Issue 2).

iv. Use a structured sentence organizer or sentence anagram task to guide students in identifying syntactic roles (Hennessy & Salamone, Issue 2).

v. Children will find exceedingly long sentences in text. Ask them to bring them to you! Teaching with naturally occurring sentences empowers students to break into them as they encounter them (Deacon et al., Issue 1).

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Syntax Pedagogy continued from page 61

vi. Children often fail to use context and world knowledge when constructing a situation model, even when they do possess the needed information. Explicit instruction about syntactic structures and how knowledge can resolve structural ambiguities could help early readers overcome these challenges (Yacovone, Issue 1).

vii. Read-alouds should not be dismissed for advanced students, as they offer great possibilities for identifying complex sentences and breaking them down as part of an explicit instruction activity. Audiobooks can also be a great tool for exposing children to advanced language. (MacDonald, Issue 2)

d. Classroom practices to promote syntactic knowledge (for high-school+ readers)

i. The same as for elementary readers, but at an advanced level.

ii. The goal should be to find ways to expose students to, and have them interact with, advanced language. This could include read-alouds, audiobooks, and documentaries. Not all instruction needs to be explicit, because students learn implicitly from the language they are exposed to (MacDonald, Issue 2).

iii. Introduction of more advanced genres and specialized structures associated with real world/adult applications (i.e., contracts and other legal documents).

3. Assessment

a. General considerations

i. Syntactic awareness is different from syntactic knowledge. Assessment tasks that require demonstration of syntactic knowledge may be most informative for instructional decision-making (Powell-Smith, Issue 1; Powell-Smith, Issue 2).

ii. Assessments of language and syntax should be selected to ensure they meet technical standards and serve designated purposes, including providing instructionally useful information. Multiple tables with specific information about choosing assessments are provided (Powell-Smith, Issue 2).

iii. In some cases, a screening that over-identifies students for support when they might not actually need it, could be better than missing students who really need support (Powell-Smith, Issue 2).

iv. Greater attention to screening for language difficulties is needed. The prevalence of DLD is the same as that of dyslexia, yet only 20–30% of children with DLD are identified for support services. Between 50–80% of children with dyslexia also have DLD (Hogan & Van Dyke, Issue 1).

b. What teachers can do now

i. Teacher observation and informal assessments of key indicators of syntactic difficulty can assist in determining student needs (Powell-Smith, Issue 1; Breen, Issue 2).

ii. Recognizing phrasal boundaries indicates that the reader is processing the meaning of the text while reading. Informal assessment of students' prosody can focus on the extent to which students' oral reading incorporates accurate syntactic phrasing (Eberhardt & Gillis, Issue 2; Breen, Issue 2).

4. Language Variation

a. When language variation is not considered, standardized measures of language and literacy may not reflect many students' true skills.

i. Educators may address these challenges by using informal assessments closely tied to instruction (Gatlin-Nash, Issue 1; Powell-Smith, Issue 2, in particular Table 5).

ii. Linguistic strengths among many Black children include syntactic complexity, metalinguistic awareness, and narrative composition (Gatlin-Nash, Issue 1; Murray et al., Issue 2).

b. Understand similarities and differences between the home language and General American English (GAE).

i. Encouraging a child to use their home dialect or language may strengthen pre-existing language skills in a way that supports learning GAE (Murray et al., Issue 2; Cárdenas-Hagan, Issue 2).

ii. Multilingual students can face unique challenges in acquiring the syntactic structures of multiple languages, especially in areas where languages diverge. They may also have reduced exposure to academic language structures in the language of instruction (Cárdenas-Hagan, Issue 2).

iii. Leverage similarities and differences between languages for explicit instruction and reciprocal discussion within the classroom.

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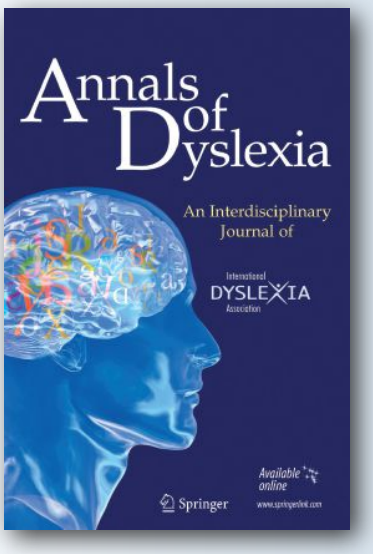

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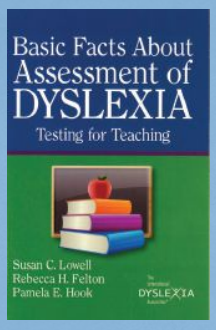

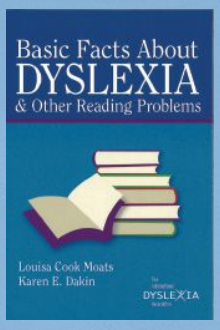

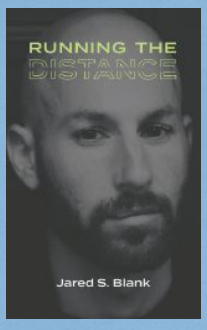

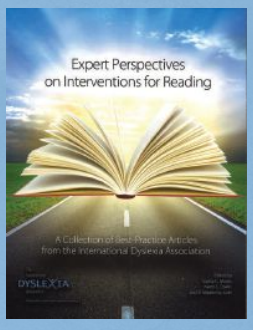

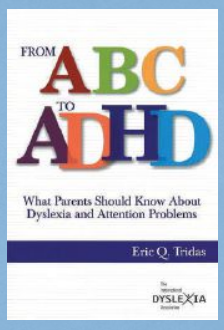

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