

Intensive Intervention Practice Guide: Explicit Instruction in Sentence-Combining for Struggling Writers

Brennan W. Chandler, University of Georgia
Jessica L. Bourget, University of Connecticut
Emily A. Reno, University of Minnesota



This project was supported in part by Grant H325H190003 from the U.S. Department of Education, Office of Special Education Programs (OSEP). Opinions expressed herein are those of the authors and do not necessarily represent the position of the U.S. Department of Education, and no official endorsement by it should be inferred.

This product is public domain. Authorization to reproduce it in whole or in part is granted. Although permission to reprint this publication is not necessary, the citation should be: Chandler, B.W., Bourget, J.L., & Reno, E.A. (2021). Practice Guide: Explicit Instruction in Sentence-Combining for Struggling Writers. Washington, DC: US Department of Education, Office of Special Education Programs.

Fall 2021

Graphic services supported in part by EKS NICHD Grant #1P50HD103537-01 to the Vanderbilt Kennedy Center.

Contents

What Is It?	4
For Whom Is It Intended?	5
How Does It Work?	5
How Can Families Support Implementation?	9
How Adequate Is the Research Base?	10
How Practical Is It?	11
How Effective Is It?	12
What Questions Remain?	14
Where Can I Learn More?	15
Table 1	16
Table 2	17
References	19

What Is It?

In this *Intensive Intervention Practice Guide* we investigate current practices used to provide explicit instruction in sentence-combining for struggling writers. Sentence-combining is a practice for teaching students how to write clear, grammatically correct, and syntactically complex sentences. Students are taught to consolidate information from two or more “kernel” sentences (simple sentences with no modifiers that can be combined) into a single sentence using all the information provided, eliminating any redundancies without altering the meaning provided in the simple sentences (Goodrich et al., 2020). This activity allows students to exercise greater control over syntax (i.e., the arrangement of words and phrases) by increasing their use of complex clause structure (e.g., coordinating, subordinating clauses) and conjunctions. Sentence-combining is most effectively taught using explicit instruction.

Explicit instruction is a methodology for teaching characterized by supports that guide students through clear objectives and rationales for learning, demonstrations of the objective, and supported practice with regular feedback until mastery of the skill has been achieved (Archer & Hughes, 2011). The general outline of a lesson guided by the principles of explicit instruction have the following six teaching functions: (1) review, during which relevant previous learning is reviewed; (2) presentation, where lesson goals and important vocabulary is introduced with modeling procedures; (3) guided practice, during which students practice the skills they have been taught with timely feedback from a more proficient person (e.g., teacher, parent); and (4) independent practice, where students practice learned skills on their own until the skills are automatic (Archer & Hughes, 2011). In addition, explicit instruction includes segmenting or breaking down complex tasks into smaller, more manageable chunks, making key information explicit by using modeling and think-aloud techniques, promoting engagement by systematically fading supports as students demonstrate accuracy, frequently eliciting student response and providing feedback, and creating purposeful independent practice activities that help students retain and generalize new knowledge (Hughes et al., 2017). Specific steps for implementing a sentence-combining intervention using explicit instruction will be provided in the *How Does it Work?* section of this practice guide.

For Whom Is It Intended?

Sentence-combining interventions are intended for students who struggle with writing, ranging from elementary-aged to middle school students. Students in upper elementary grades are often the target of sentence combining interventions as this is the age when many children are identified as late-emergent poor readers who struggle with general language comprehension and sentence comprehension (Balthazar & Scott, 2019). Sentence-combining is also cited in research and used with students who have language-based learning disabilities (i.e., developmental language disorder and learning disabilities), struggling writers (i.e., those at-risk for language-based learning disabilities; Balthazar & Scott, 2018; Saddler et al., 2008), and emergent bilingual students (Sjolie, 2006).

Students with learning disabilities generally produce sentences that are less complex, include more spelling and grammatical errors, and have less diverse vocabulary than their same-age peers (Saddler et al., 2018). Scott and Balthazar (2018) suggested that knowledge of complex sentence structure is essential for academic success and sentence combining may be useful for both assessment and intervention with students at risk for learning disabilities. Frequent sentence-combining sessions using explicit instruction with clear modeling and practice allows students to explore language without the added cognitive burden of generating their own sentence (Saddler et al., 2018).

How Does It Work?

There are a variety of ways that students can engage in sentence-combining exercises, but it ultimately depends on the goal of instruction. Students can learn pronoun, comma, conjunction, and adjective placement through combining sentences. Furthermore, compound subject and possessive noun production can be taught through this effective supplemental practice (Saddler, 2005).

Step 1: Determine Target Skill

To teach sentence-combining, teachers first need to choose a grammatical skill they want to target (e.g., adjective placement, possessive nouns). Although there is no definitive order of skills for sentence-combining exercises, teachers can start with a more scaffolded approach depending on the skill level of the students (Saddler, 2005). A good way to determine which skill to focus on is to analyze samples of students' writing. For example, if a student uses short, choppy simple sentences, adjective and adverb placement would be a good place to start. See Table 1 for a possible sequence of sentence-combining exercises.

Step 2: Develop a Set of Exercises

After a skill is chosen, teachers will need to create sentence-combining exercises. These exercises can be developed from a variety of curriculum materials, such as social studies and science curriculum; further, short narrative stories also provide material for inspiration. Creating exercises within the context of the curriculum helps both supply and reinforce content knowledge (Graham et al., 2020). Although explicit writing instruction should take place within core English language arts (ELA) instruction, writing instruction can take place within content-areas in order to improve overall writing abilities *and* to increase comprehension of topics taught during content-area instruction (Graham & Hebert, 2010).

Once content is chosen, teachers can begin to create simple sentences (i.e., kernel sentences). To generate exercises, two guidelines (Strong, 1986) are recommended. First, exercises should be set up so that the base clause comes first, followed by one or more modifying sentences. For example, “the lion roared” could be a base sentence and “the lion was yellow” could be a modifying sentence. The combined sentence would be “the yellow lion roared.” The next recommended guideline is to use clues to focus students on the information they need to keep from the modifying sentence(s). The first clue teachers can use are underlined words in the modifying sentence:

The students played during recess.

The students were happy.

These kernels resulted in:

The happy students played during recess.

Teachers can also enclose parenthetical words at the end of modifying sentences:

The teacher spilled coffee on her shirt.

She forgot to put the lid on. (because)

These kernels would result in:

The teacher spilled coffee on her shirt because she forgot to put the lid on.

After students have ample scaffolded practice with using the clues, teachers can remove the clues so that the students must decide what important material in the modifying sentence needs to be included within the combined sentence. Additionally, teachers can create more than two kernels once students are fluent in their ability to combine two simple sentences (see Saddler & Saddler, 2009).

Step 3: Teach Explicitly

After a set of exercises are developed, teachers should employ an explicit instructional format (Archer & Hughes, 2011) to directly teach students how to combine sentences. Before teachers model the sentence-combining activity, they can inform students that the activity will help them write more interesting sentences that sound better to readers. They can further explain that good writers often rearrange, add, and sometimes remove parts of their sentences to make them sound better.

Model

Before modeling the sentence-combining process, it is important that teachers pre-teach any content-specific vocabulary that will appear in the exercises (Goodrich et al., 2020). For example, the word *migrant* could be pre-taught with a simple definition, example, and non-example. See Archer and Hughes (2011) for an effective scaffolded framework for vocabulary instruction.

Before students engage in sentence-combining, it's important that teachers explicitly model how to combine sentences. During modeling, teachers should provide instruction in clear, consistent, and concise language. Teachers can start with two simple sentences and model through an overt think-aloud, which gives students access to the self-questions, self-instructions, and decisions that occur as exercise is completed. Here is an example:

I have two sentences that I need to combine: "Cesar Chavez was a migrant. Cesar was brave." The first sentence tells me that Cesar was a migrant and the second sentence tells me that he was brave. I can move the word "brave" to the first sentence; I don't need the words in the rest of the sentence anymore. I am going to write it like this: "Cesar Chavez was a brave migrant." I think that sounds good! The word "brave" describes Cesar, and I used all of the information from the two sentences. Now I need to write the new sentence. (Teacher writes sentence, saying each word out loud while writing). I don't know how to spell the word brave, so I am going to look back at how it is spelled in the original sentences. (Teacher finishes writing the sentence and reads the completed sentence). That sounds great! There are some words I did not repeat because they were already in the first sentence. I combined the sentences by moving "brave" to the first sentence. I put "brave" in front of migrant because it's describing the type of migrant that Cesar was.

Teachers should provide a handful of sentence-combining demonstrations. After the first demonstration, teachers can begin to elicit student responses throughout the modeling portion of the lesson (e.g., *what should I do next?*) to maintain student engagement. Further, teachers should continue to make it clear that there is often more than one correct way to combine sentences (i.e., *it is okay to make mistakes because revising is writing*).

Guided Practice

After teachers model a handful of exercises, they can then move on to leading students through scaffolded practice to guide students to develop multiple solutions to a problem. Intensive guided practice can occur in pairs (Saddler & Graham, 2005) or one-on-one (Goodrich et al., 2020). Both of these instructional arrangements give students multiple opportunities to respond and receive specific, corrective feedback.

During guided practice, teachers should lead students through several exercises before students engage in independent practice. Teachers can read the kernel sentences, ask what each sentence tells, and discuss with students how the sentences can be combined to make a more interesting, descriptive sentence. If students make an error, teachers should provide corrective feedback and model an exercise or two before continuing guided practice.

Independent Performance

After students find success with guided practice, it is time for students to practice independently to gain fluency with the exercises. If students struggle with completing the exercises independently, teachers should provide a higher level of support; however, if students are successful with the exercises, teachers can move to combining sentences in the context of students' own writing.

Three Recommendations to Maximize Student Success With Sentence Combining. Three recommendations are presented to maximize student success with sentence-combining. First, it is important to note that the ultimate goal of sentence-combining practice is for students to vary the syntactic structure of sentences in their own writing. Students need to be able generalize newly developed skills from sentence-combining exercises into their own writing. To achieve this, it is important that teachers incorporate writing instruction, including sentence-combining activities, into their regular routine. The model-lead-test instructional framework presented above can and should be integrated into regular instruction to promote generalization.

Second, students need experience with writing for different purposes to become proficient writers (Graham & Hebert, 2010). Furthermore, experts recommend educators dedicate at least one hour of writing instruction per day into their regular routines (Graham et al., 2012; Graham, 2019). To achieve this, teachers can target writing for persuasion or entertainment within ELA; writing

to inform or for self-reflection within social studies; or writing to demonstrate knowledge within science (Graham & Hebert, 2010). During sentence-combining activities, interventionists can show students how to combine kernels to demonstrate knowledge about a topic they learned during their science class, or help students combine kernels to write a more entertaining narrative for their ELA assignment.

Finally, it is important to practice skills taught during sentence-combining sessions in passage-level writing. The majority of research on sentence-combining showed that skills taught in sentence-level intervention did not generalize to passage-level writing on its own. Students likely need explicit instruction on how to use the skills taught in sentence-combining in higher levels of writing. Interventionists should model how they combine kernel sentences to create more complex sentences across all genres and levels of writing, including passage-level construction. Interventionists may also need to remind students of and prompt them to use skills taught in sentence-combining intervention in their passage-level writing.

How Can Families Support Implementation?

Sentence-level writing skills are vital to overall writing development. As previously discussed, sentence-combining is one way to increase the length, complexity, and syntactic maturity of sentences. Within a sentence-combining scope and sequence, conjunction usage (e.g., *but*, *although*) is essential. These connectives represent specialized vocabulary knowledge that students need to read and write (Crosson & Lesaux, 2013). To aid in understanding and using conjunctions, families can help support development of these skills in several ways.

One way for families to help support their children with conjunctions is to discuss coordinating (e.g., *but*, *and*) and subordinating (e.g., *because*, *if*) conjunctions and their meanings with their children. For example, a family member might share that the conjunction “*but*” usually signals a turn in direction. Then the family member could orally model a variety of sentences using the conjunction “*but*” (e.g., *I like to run outside, but not when it is raining*). Next, a family member might give the child a stem with the conjunction (e.g., *I like to play with my friends, but*) and have the child finish the sentence (Hochman & Wexler, 2017). This provides the adult with a quick “check” for understanding; if the child finishes the sentence with a phrase that makes sense, it indicates that they understand the conjunction. Finally, families can take this one step further by encouraging their children to orally produce sentences with the conjunction on a specific topic.

How Adequate Is the Research Base?

Developed in the late 1960s as an alternative to teaching formal grammar, sentence-combining has been thoroughly researched. Over 80 studies conducted over the last 40 years have demonstrated, with a few minor exceptions, that sentence-combining is an effective method for helping students produce more syntactically mature sentences (e.g., Cooper, 1973; Hunt, 1965; Saddler & Asaro, 2008; Saddler & Graham, 2005); however, many of these studies are dated and were not conducted with students with disabilities and emergent bilingual students. See Table 2 for a summary of sampled studies.

Struggling Writers and Students With Language-Based Disabilities

For students with and at-risk for learning disabilities, several empirical studies have been conducted. Saddler and Graham (2005) first investigated the effects of sentence-combining for students with disabilities. In this study, 44 struggling writers were assigned two instructional conditions: sentence-combining or grammar instruction. Participants in each condition received 30 lessons, 25 minutes in length, three times per week for 10 weeks. The results were statistically significant and revealed an effect size of 0.81 on sentence-combining measures. Following these promising results, two replication single-case design studies were conducted (Saddler, Asaro, & Behforooz, 2008; Saddler, Behforooz, & Asaro, 2008) to examine the effects of sentence-combining on a more granular level. Participants in both of these studies showed positive changes in mean performance.

Furey et al. (2017) examined the effects of sentence-combining strategy instruction on fourth-grade students identified as struggling writers. The results indicated that sentence-combining was successful at improving struggling writers' sentence-level grammar and syntax, but was not effective at improving overall story quality on a passage-level writing. In 2018, Bathazar and Scott examined the effects of sentence-combining on the sentence production of emergent bilingual middle schoolers. In this study, most participants demonstrated medium or large effects of intervention. Most recently, Walter et al. (2021) investigated the effects of sentence-combining on the writing skills of 71 struggling writers and found that the sentence-combining group made significant gains.

Emergent Bilingual Students

To date, there have been a handful of studies examining the effects of sentence-combining instruction on the writing ability of emergent bilingual students. Goodrich et al. (2020) conducted two single-case design experiments that investigated the effects of sentence-combining instruction on the writing of Spanish-speaking emergent bilingual students. In these experiments, sentence-combining was enhanced through translation of words in Spanish and through the use of pictures to build context. Results from both studies indicated a functional relationship between sentence-combining instruction and student writing performance and led to a marked improvement in number of correct word sequences (CWS) on sentence-level probes; however, the effects of the intervention did not generalize to standardized measures of sentence writing to students' passage-writing skills. Additionally, Telesca et al. (2020) employed a group design study to examine the effects of sentence-combining on both struggling writers, of whom many were emergent bilingual students.

While sentence-combining has a robust research base as a practice, more research needs to be conducted to examine the effects of this intervention on students with disabilities as well as emergent bilingual students. In addition, more research needs to be conducted on the transfer and generalization of a sentence-combining intervention.

How Practical Is It?

A majority of the research on sentence-combining is done in a 1:1 service delivery model. However, researchers have tested sentence-combining in small group and whole-group intervention models; this suggests that sentence-combining can be used effectively in a variety of service delivery models as a supplemental writing activity.

Sentence-combining is not specific to a particular writing curriculum, and as such, is convenient for educators who may wish to embed sentence-combining activities into specific curriculum that they already use. Saddler and Preschern (2007) suggest that sentence-combining can provide teachers with a way to include systematic instruction in sentence-combining within an overall framework of the writing workshop. This means it can be taught alongside the writing process in a general education classroom, resource room, or self-contained classroom. Sentence-combining can also be introduced in a more naturalistic way by selecting classroom texts, reducing a passage or kernel into sentences that may be combined, or even using the students' own writing to re-create sentences they can combine.

Another model that has been researched is the use of Peer-Assisted Learning Strategies (PALS) which is an evidence-based model of intervention and instruction that has garnered positive effects in literacy-based interventions (see Fuchs et al., 1997). Using PALS in this manner allows the more proficient student to act as a tutor while the less proficient writer will act as the tutee during the “guided practice” section of the lesson (Saddler & Graham, 2005).

How Effective Is It?

As a supplemental intervention, sentence-combining has a long history of effectively improving sentence-level writing since its inception in the 1960s (Saddler, 2019). In Graham and Perrin’s (2007) meta-analysis of writing interventions, sentence-combining was found to be a moderately effective ($d = .50$) intervention for fourth through twelfth (most often fourth through eighth) grade, English-speaking monolingual students struggling with sentence-level writing. Most research on sentence-combining targeted “struggling writers,” and included both typically developing students and students receiving special education services (Graham & Perrin, 2007). As such, effect sizes reflect a wide range of abilities and cannot be directly applied to a specific group of students (e.g., students with disabilities).

Currently, there is little research on sentence-combining intervention that focuses on students with language-based learning disabilities. Similarly, there is little research on sentence-combining intervention with emergent bilingual students. Although sentence-combining intervention is effective for such learners, strength of such effects varies.

Language Based-Learning Disability

Specific learning disability and developmental language disorder are presented together as language-based learning disabilities due to lack of research that individually focuses on specific learning disability or developmental language disorder, respectively. In their study of sentence combining using peer-assisted-learning-strategies for students with specific learning disability, Saddler et al. (2008) reported sentence combining was highly effective in increasing overall sentence combining ability, use of targeted sentence constructions, writing quality, and number of revisions on written narratives. Sentence-combining appeared to effectively increase sentence-level writing abilities and generalized to passage-level writing (written narratives).

Balthazar and Scott (2018) reported one-on-one sentence-combining intervention was moderately effective in increasing use of targeted complex sentence constructions in 10 through 14-year-old emergent bilingual middle school students. Effects did not generalize to passage-level writing, as indicated by the quality of students’ written narratives.

Struggling Writers

Study results are consistent with those of “struggling writers” that studied students with or at-risk for language-based learning disabilities alongside their typically developing peers. For struggling writers, sentence-combining ranged from mildly effective (Domsch et al., 2018; Telesca et al., 2020) to moderately or highly effective (Saddler & Graham, 2005) in improving students’ sentence-level writing abilities. There was no generalization to passage-level writing. Students with language-based learning disabilities most often exhibited moderate to high gains, as opposed to small gains in writing skills (most often measured by researcher-created sentence-combining tasks or subtests of sentence-combining on standardized writing assessment) in typically developing students. This is consistent with prior observations that sentence combining appears to be most effective for students with the lowest starting abilities (Balthazar & Scott, 2018; Evans et al., 1988).

Emergent Bilingual Students

One-on-one intervention implementing a sentence combining practice was highly effective in increasing use of trained constructions in the sentence-level writing of Spanish-English speaking emergent bilinguals with no history of special education services (Goodrich et al., 2020). Effects did not generalize to writing quality in passage-level writing (written narratives).

Implementing Sentence-Combining Interventions With Diverse Populations

Research on sentence-combining for students with other disabilities (e.g., autism, visual impairment, hearing impairment, attention-deficit-hyperactivity disorder, intellectual disability, etc.) or for students whose needs cannot be met in a general education setting (e.g., students attending self-contained programs) is scant. Practitioners serving students with diverse needs, including those who are emergent bilinguals or receive special education services, should review their students’ individual strengths and needs when considering sentence-combining intervention.

What Questions Remain?

Although decades of research illustrate that sentence-combining is an effective intervention for struggling writers, the majority of research focuses on general education students in general education settings. Although existing research is encouraging, sentence-combining's effectiveness on improving sentence-level writing in students with disabilities and emergent bilinguals is not well understood. Some questions regarding the applicability of sentence-combining for students served by special educators remain:

- To what extent is sentence-combining an effective intervention for emergent bilingual students, including those with language-based learning disability?
- To what extent is sentence-combining an effective intervention for students with disabilities, including those with language-based learning disabilities and lower incidence disabilities?
- To what extent is sentence-combining effective in group interventions?
- To what extent do gains from sentence-combining maintain over time?
- How can interventionists help students to generalize skills taught in sentence-combining interventions to passage-level writing, especially in content-areas such as science, social studies, or history?
- To what extent can sentence-combining intervention be embedded into content-area instruction (e.g. science, history), and what modifications might be necessary in order to do so?

Where Can I Learn More?

- Saddler, B. (2012). *Teacher's guide to effective sentence writing*. Guilford Press. This book provides practitioners a step-by-step guide for teaching sentence-level skills to students who struggle with writing. Abundant sample lessons, practice activities, and planning tips are included to guide teacher implementation of sentence-combining.
- Hochman, J. C., & Wexler, N. (2017). *The writing revolution: A guide to advancing thinking through writing in all subjects and grades*. John Wiley & Sons. This book provides teachers with a set of specific sentence, paragraph, and essay level strategies that can be embedded in all content-areas.
- Graham, S., MacArthur, C.A., & Hebert, M. (Eds.). (2019). *Best practices in writing instruction*. Guilford Press. This resource is a comprehensive guide that translates research into effective guidelines for teaching writing to grades k-12.
- The Meadows Center for Preventing Educational Risk. (2021). *10 key policies and practices for explicit instruction*. https://meadowscenter.org/files/resources/10Key_ExplicitInstruction.pdf. This guide from the Meadows Center distills the latest research on explicit instruction into 10 recommendations that states, schools, and school districts can use to implement explicit instruction.

Table 1

Possible Sequence (Saddler, 2018) With Examples of Sentence Combining Exercises

Inserting adjectives and adverbs
<ul style="list-style-type: none"> • Kernel sentence 1: Martin Luther King Jr. worked to change the laws. • Kernel sentence 2: The laws were <u>unfair</u>. • Potential combined sentence: Martin Luther King Jr. worked to change the unfair laws.
Producing compound subjects and objects
<ul style="list-style-type: none"> • Kernel sentence 1: Dr. King wanted equality. • Kernel sentence 2: Dr. King wanted <u>fairness</u>. • Combined sentence: Dr. King wanted equality and fairness.
Producing compound subjects and objects with coordinating conjunctions (e.g., and, but)
<ul style="list-style-type: none"> • Kernel sentence 1: Dr. King believed that protesters should remain peaceful. • Kernel sentence 2: Dr. King believed that protesters should remain nonviolent. (and) • Combined sentence: Dr. King believed that protesters should remain peaceful and nonviolent.
Producing possessive nouns
<ul style="list-style-type: none"> • Kernel sentence 1: Dr. King read books. • Kernel sentence 2: The books were by <u>Mahatma Gandhi</u>. • Combined sentence: Dr. King read Mahatma Gandhi's books.
Producing sentences with adverbial clauses using connecting words (e.g., because, after, until, when)
<ul style="list-style-type: none"> • Kernel sentence 1: Dr. King was arrested. • Kernel sentence 2: Dr. King led a boycott. (because) • Combined sentence: Martin was arrested because he led a boycott.
Producing sentences with relative clauses
<ul style="list-style-type: none"> • Kernel sentence 1: Dr. King was a great speaker. • Kernel sentence 2: Dr. King <u>inspired many people with his words</u> (who). • Combined sentence: Dr. King was a great speaker who inspired many people with his words.
Inserting appositives
<ul style="list-style-type: none"> • Kernel sentence 1: Dr. King led the civil rights movement. • Kernel sentence 2: Dr. King was a bold activist. • Combined sentence: Dr. King, a bold activist, led the civil rights movement.

Table 2

Characteristics of Studies Investigating Sentence Combining for Struggling Writers, SWDs and EB Students

Study	Participants	Study Type	Study Duration	DVs	Results
Saddler and Graham (2005)	44 (22 SW), 4 th grade, 9 years old	TC	30 sessions, 25 min each	<ul style="list-style-type: none"> TOWL-3 sentence combining subtest 	ES=0.83 on TOWL-3 sentence-combining subtest
Saddler, Asaro, and Behforooz (2008)	4 LD, 4 th grade, 9-10 years old	SC	18 sessions, 35 min each	<ul style="list-style-type: none"> Story quality (rubric) TOWL-3 sentence combining subtest 	Changes in level, mean, and accelerating trend
Saddler, Behforooz, and Asaro (2008)	6 (3 LD), 4 th grade, 9-10 years old	SC	23 sessions, 10 min each	<ul style="list-style-type: none"> Story quality (rubric) T-Unit Length TOWL-3 sentence combining subtest 	Two out of the three dyads showed improved mean performance and immediate changes in level
Balthazar and Scott (2018)	30 (30 EB), 10-14 years old	TC	9 sessions, 40-60 min each; 18 sessions, 40-60 min each	<ul style="list-style-type: none"> researcher-developed sentence combining probes CELF-4 Core Language Scale GORT-4 Mean T-Unit Length of written narrative 	Twenty-four participants demonstrated medium or large effects of intervention on at least two out of three targeted constructions (PEM .73- .83); statistically significant gain on CELF-4; no effects on GORT-4 or mean length of T-Unit.
Domsch, Rodriguez, Titzman, and Kester (2018)	6 (1 EB, 5 SW), 4 th grade, 9-10 years old	SC	10 sessions, 30 min each	<ul style="list-style-type: none"> TOWL-4 sentence combining subtest Total complex sentences in timed written narrative (10 min) 	Three out of six students increased scores on TOWL-4 sentence combining; small ES in 4 students (NAP = .50- .64); large ES in 1 student (NAP = .88); no effect on 1 student on complex sentences written

LD= Learning disability, EB= emergent bilingual, SC= single-case design, DV= dependent variable, SW= struggling writers, sentence combining=single case, TC= treatment comparison

Characteristics of Studies Investigating Sentence Combining for Struggling Writers, SWDs and EB Students

Study	Participants	Study Type	Study Duration	DVs	Results
Goodrich, Hebert, Saviano, and Andress (2020)	7 EBs, 3 rd to 5 th grade	SC	3 to 7 sessions	<ul style="list-style-type: none"> • TOWL-3 sentence combining subtest • WIAT-III Passage Writing • CWS • Researcher-developed vocabulary test 	Improved mean performance and immediate change in level
Telesca, Ehren, Hahs-Vaughn, Zygouris-Coe, and Kong (2020)	86 SW (25 EB), 8 th grade, 12-16 years old	TC	20 sessions, 20 min each	<ul style="list-style-type: none"> • Quality of writing on compare and contrast writing prompt • Completion of compare and contrast graphic organizer 	Moderate effect on completion of graphic organizer (partial $\eta^2 = .060$) favoring experimental group; no effect on quality of writing on prompt
Walter, Dockrell, and Connelly (2021)	71 SW, 7-10 years old	TC	16 sessions, 25-30 min each	<ul style="list-style-type: none"> • WIAT-II sentences subtest • BAS-II single word spelling • CBM-W (CWS, TWW, TRR, WSC) 	Sentence combining group made significant gains $g=0.84$

LD= Learning disability, EB= emergent bilingual, SC= single-case design, DV= dependent variable, SW= struggling writers, sentence combining=single case, TC= treatment comparison

References

- Archer, A. L., & Hughes, C. A. (2011). *Explicit instruction: Effective and efficient teaching*. Guilford Press.
- 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. https://doi.org/10.1044/2017_JSLHR-L-17-0105
- Crosson, A. C., & Lesaux, N. K. (2013). Connectives: Fitting another piece of the vocabulary instruction puzzle. *The Reading Teacher*, 67(3), 193-200. <https://doi.org/10.1002/TRTR.1197>
- Cooper, C. R. (1973). An outline for writing sentence combining problems. *English Journal*, 62, 96-102. <https://doi.org/10.2307/814087>
- Datchuk, S. M., & Kubina, R. M. (2013). A review of teaching sentence-level writing skills to students with writing difficulties and learning disabilities. *Remedial and Special Education*, 34(3), 180-192. <https://doi.org/10.1177/0741932512448254>
- Domsch, C., Rodriguez, L.R., Titzman, L.E., & Kester, E. (2018). Increasing complex syntax use in written language in school-age students: A multiple- baseline study of sentence combining. *Perspectives of the ASHA Special Interest Groups*, 3(16), 4-19. <https://doi.org/10.1044/persp3.SIG16.4>
- Evans, R., Venetozzi, R., Bundrick, M., & McWilliams, E. (1988). The effects of sentence-combining instructions on writing and on standardized test scores. *The Journal of Educational Research*, 82(1), 53-57. <https://doi.org/10.1080/00220671.1988.10885865>
- Fuchs, D., Fuchs, L. S., Mathes, P. G., & Simmons, D. C. (1997). Peer-assisted learning strategies: Making classrooms more responsive to diversity. *American Educational Research Journal*, 34(1), 174-206. <https://doi.org/10.2307/1163346>
- Furey, W. M., Marcotte, A. M., Wells, C. S., & Hintze, J. M. (2017). The effects of supplemental sentence-level instruction for fourth-grade students identified as struggling writers. *Reading & Writing Quarterly*, 33(6), 563-578. <https://doi.org/10.1080/10573569.2017.1288591>
- Goodrich, J. M., Hebert, M., Savaiano, M., & Andress, T. T. (2020). Effects of sentence-combining instruction for Spanish-speaking language-minority students: Evidence from two single-case experiments. *The Elementary School Journal*, 120(4), 715-749. <https://doi.org/10.1086/708641>

- Graham, S. (2019). Changing how writing is taught. *Review of Research in Education*, 43(1), 277–303. <https://doi.org/10.3102/0091732X18821125>
- Graham, S., & Hebert, M. (2010). Writing to read: Evidence for how writing can improve reading: A report from Carnegie Corporation of New York.
- Graham, S., Bollinger, A., Olson, C., D'Aoust, C., MacArthur, C., McCutchen, D., & Ollinghouse, N. (2012). *Teaching elementary students to be effective writers*. (NCEE 2012-4058). Institute of Education Sciences.
- Graham, S., Kiuahara, S. A., & MacKay, M. (2020). The effects of writing on learning in science, social studies, and mathematics: A meta-analysis. *Review of Educational Research*, 90(2), 179-226. <https://doi.org/10.3102/0034654320914744>
- Graham, S., & Perin, D. (2007). A meta-analysis of writing instruction for adolescent students. *Journal of Educational Psychology*, 99(3), 445. <https://doi.org/10.1037/0022-0663.99.3.445>
- Hochman, J. C., & Wexler, N. (2017). *The writing revolution: A guide to advancing thinking through writing in all subjects and grades*. John Wiley & Sons.
- Hughes, C. A., Morris, J. R., Therrien, W. J. & Benson, S. K. (2017) Explicit instruction: Historical and contemporary contexts. *Learning Disabilities Research and Practice*, 32, 140–148. <https://doi.org/10.1111/ldrp.12142>
- Hunt, K. W. (1965). *Grammatical structures written at three grade levels* (Research Report No. 3). Champaign, IL: National Council of Teachers of English.
- Saddler, B. (2005). Sentence combining: A sentence-level writing intervention. *The Reading Teacher*, 58(5), 468-471. <https://doi.org/10.1598/RT.58.5.6>
- Saddler, B. (2018). Sentence Construction. In S. Graham, C. MacArthur, & M. Hebert (Eds., *Best practices in writing instruction* (pp.2 40-260). New York, NY: Guildford.
- Saddler, B., & Asaro-Saddler, K. (2009). Writing better sentences: Sentence-combining instruction in the classroom. *Preventing School Failure: Alternative Education for Children and Youth*, 54(3), 159-163.
- Saddler, B., Asaro, K., & Behforooz, B. (2008). The Effects of Peer-Assisted Sentence-Combining Practice on Four Young Writers with Learning Disabilities. *Learning Disabilities: A Contemporary Journal*, 6(1), 17-31.
- Saddler, B., Behforooz, B., & Asaro, K. (2008). The effects of sentence-combining instruction on the writing of fourth-grade students with writing difficulties. *The Journal of Special Education*, 42(2), 79-90.

- Saddler, B., Ellis-Robinson, T., & Asaro-Saddler, K. (2018). Using sentence combining instruction to enhance the writing skills of children with learning disabilities. *Learning Disabilities: A Contemporary Journal*, 16(2), 191-202.
- Sjolie, D. (2006). Phrase and clause grammar tactics for the esl/ell writing classroom. *English Journal*, 95(5), 35. <https://doi.org/10.2307/30046586>
- Strong, W. (1986). *Creative approaches to sentence combining*. Urbana, IL: ERIC Clearinghouse on Reading and Communication Skills and the National Council of teachers of English.
- Telesca, L., Ehren, B. J., Hahs-Vaughn, D. L., Zygouris-Coe, V. V. I., & Kong, A. P. H. (2020). The effect of metalinguistic sentence combining on eighth-grade students' understanding and written expression of comparison and contrast in science. *Journal of Speech, Language, and Hearing Research*, 63(9), 3068-3083. https://doi.org/10.1044/2020_JSLHR-19-00086
- Walter, K., Dockrell, J., & Connelly, V. (2021). A sentence-combining intervention for struggling writers: Response to intervention. *Reading and Writing*, 34, 1825-1850. <https://doi.org/10.1007/s11145-021-10135-8>