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Spelling, Morphology, and Writing Instruction Make the Greatest Impact on Reading Proficiency: An Interview with Dr. Brennan Chandler

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Writing is thinking itself. – Brennan Chandler

Marisa Thomas: Would you tell us a little bit about your background, and particularly what brought you to reading science and your research focus on the relationship between spelling and writing?

Brennan Chandler: I started out as an elementary school teacher. I taught 2nd grade, 3rd grade and special-education intervention and resource, and I quickly realized that I did not know how to teach my students how to read. I really didn't even know what reading meant. We did some guided reading groups, but most of my students did not have rich exposure to oral language at home, and really had trouble reading. They couldn't read words, understand, or draw meaning from the text. That got me really interested because, though I loved teaching, I didn't know what to teach, or how to integrate reading instruction with academic content.

I got a job in New York City working at this incredible school for twice-exceptional children. The principal wanted me to do this training called Orton-Gillingham [OG]. I had no clue what this was. The principal wanted all her staff trained in OG. She said, “Many of our students have dyslexia, ADHD, and other co-occurring

Motivation and skill play off each other. She can do it, so she tries. When she tries, she gets better. Then she's motivated to write or spell. But that bidirectional relationship can go the other way. He can't do it, so he stops trying, he shuts down, he falls further back. Now he's quitting, a reasonable choice. It's the Matthew effect (Stanovich, 1986) in reading and writing – the rich get richer, and the poor get poorer ...

difficulties, and so we want you to get this training." In Brooklyn, I was trained by an incredible OG fellow named Katie Takayanagi.

That was my entry point into reading science. We have to teach students how to read words, how to spell words, and how to use words to draw meaning from text. This really helped my students. But then during my OG training, I wondered about writing. What are we doing with writing? My OG fellow said that we were doing spelling. I said, "I have 2nd and 3rd graders who are reading really well, though struggle with spelling, but also *really struggle* with writing." All this got me interested in anything related to instruction, and improving student outcomes, and that brought me to a PhD at the University of Texas at Austin, under Dr. Jessica Toste.

I learned that reading is more than Orton-Gillingham. Converging research findings in reading science lead to recommendations for evidence-based reading instruction. I dove into writing instruction, intervention, and spelling. While my advisors weren't interested in spelling, and it wasn't really a thing that we talked a lot about in my doctoral program, I pursued this independent path with my advisor, doing a meta-analysis on spelling. I wanted to know *if* I could help my students write, and I knew that spelling was a huge component. It's like with word reading; we need word reading and language comprehension for reading comprehension. But with writing, we need to make sure students have transcription skills, specifically spelling and handwriting. How do those integrate with written composition? That question is what interested me. This all goes back to the classroom – the efficiency of leveraging integrated reading and writing instruction.

MT: Why should all students be taught and learn to write? What does the phrase, "Writing is thinking," mean to you?

... To stop that cycle, pause and sit with the idea that motivation and skill feed each other, positively or negatively. We want to build students' skills, remediate skill deficits, build them up, and have them feel successful. That's the most motivating thing for a child, especially adolescents who have been struggling to read, to feel successful.

– Brennan Chandler

BC: Now, in the age of generative AI [Artificial Intelligence], it's hard to be a reading, writing, and spelling researcher, but writing is an incredible tool for communication and expressive language. One of my mentors, Adrea Truckenmiller once said, "Reading is knowledge, but writing is power." Writing really gives students voice. It allows them to express their thoughts, to communicate clearly, to argue, and to have an opinion about something.

I also really love writing because it helps us clarify our thinking. Writing is not just a tool for assessment or for recording students' thinking. Writing is thinking itself. When we can't organize our words clearly, our internal logic can become muddy. Writing makes our thinking visible.

Sometimes there's pushback. [Someone may say] I'm just better at talking out my problems or thinking through my logic out loud. But it's hard to track speech, because it's not made visible or concrete. It's still abstract in our brain. In contrast, we can track our thoughts with writing. Consider this quote, which is often misattributed to George Orwell [true author unknown], "If people cannot write well, they cannot think well, and if they cannot think well, others will do their thinking for them." Often I start my talks with that message. When I train teachers and consult in schools and districts, I emphasize that writing is this incredible tool for thinking, and we want to make sure that we give students access to that tool. Maybe students don't want to become professional writers, but even a common task like journaling is so helpful for us to think and reflect. Diaries are such a powerful tool for really thinking through our own internal logic. Students need to learn to write for two main reasons: as a tool for communication, and a tool for "thinking made visible," which is also critical thinking.

MT: Very powerful. For many years, educators have considered spelling not really worth teaching and instead prioritized other approaches, such as inventive spelling, a whole language approach to writing instruction, and more discovery-based learning. What has been the result of these approaches?

BC: The result is that we don't have great spellers. Many teachers tell me, "Oh, my students can't spell." If we look historically at writing instruction in general, the report The Neglected R (College Entrance Examination Board, 2003) discusses this neglected area of curriculum. We haven't really paid attention to writing. Students can't spell well. Writing is not a targeted, tested subject. That's another reason why many don't think that it's worthwhile to teach.

There is a time and a place for inventive spelling. Researchers (Gentry, 1982; Ouellette & Sénéchal, 2017) have found that in preschool and kindergarten, inventive spelling can be very powerful to help kids start to crack the code. But then moving on to formal, explicit spelling instruction is very important. Relying only on inventive spelling, whole language, or discovering spelling is really tough, because even if we teach phonics really well, there's a big discrepancy between spelling phonics and reading phonics. A spelling interventionist, Robert Dixon (1993), who created one of my favorite spelling programs,

discusses these differences, and that many kids need both. There are different frequencies at which we spell certain graphemes, but when we read words, there's less possibility. As a result, we need to make sure we're providing both. What we find is, just because students had a good, explicit, systematic phonics program in grades K-2 does not automatically mean they're proficient at spelling. When I screen students for spelling in my research, we find many are really struggling with spelling, even if they're reading at grade level.

MT: Some people might argue that spelling and other transcription skills are unnecessary in the 21st century. For example, today, dictation tools are ubiquitous in technology. You already mentioned generative AI. Why does spelling matter?

BC: At different points of development, it matters more. In K-2 , spelling really helps kids crack the alphabetic code. The meta-analysis that my colleagues and I (Chandler, et al., 2025) conducted on spelling intervention showed that, when we teach spelling in the primary grades, yes, their spelling improves, but their reading improves even more. That's because spelling helps them solidify the alphabetic principle – that letters represent sounds. Spelling is more cognitively demanding because you have to think about what grapheme you're choosing. For example, spelling /mēt/ could be spelled ***ee*** or ***ea*** [or ***mete***]. What kind of /mēt/ am I spelling? This process supports semantics and vocabulary. Since spelling is incredibly demanding, this helps lock in reading. In K-2, we want kids to become proficient readers. Spelling is a tool to help accelerate word recognition.

Beyond K-2, spelling is a huge component skill that sits under writing. If we're not proficient spellers, our working memories will be constrained when trying to figure out how to spell – "Oh, now I've lost my train of thought!" Writing is the most cognitively demanding thing we ask students to do. It's one of the most cognitively demanding aspects of my own job [as a professor]. Writing is a lot harder than speaking, listening, and reading because of spelling retrieval and putting words in order [syntax]. If we can help with one of those components – spelling – we're doing kids a huge service. I love researching spelling, but I don't care about spelling as much as I care about written expression. Spelling is a means to an end. We're not teaching spelling for sixty minutes a day. We're teaching spelling enough to become automatic.

A couple years ago, I was tutoring a 6th grader who had pretty severe dyslexia. We got her reading achievement up; she was reading at grade level, but spelling was still a struggle for her. I asked her, do you want to work on your spelling? And she said, "I do!" This surprised me, because she did not like reading tutoring. But she said, "When I text my friends, I can't always do speech-to-text." She explained that she had trouble spelling certain words, high-frequency words like ***said, does, and was***, but she could spell other words that were more transparent [such as ***but, in, that***). That was the buy-in – knowing the limitations of dictation.

MT: I can see my own students in the example you just gave. In contrast to the negative views on spelling, Treiman (2018) states that teachers need opportunities to learn about writing systems before they are equipped to teach reading and writing.

What is meant by a writing system, and how is this different from traditional phonics?

BC: Teachers, especially at the elementary level, need some understanding about our written language system. What's a phoneme? What's spelling? We have these sounds, these phonemes that represent graphemes. We need to understand this idea of variant-vowel correspondences, knowing that a long ***e*** has different spellings. Spelling is a decision-making task in our brain. These are concepts teachers should understand. We have active ingredients in spelling instruction. Morphemes are an incredible tool to help accelerate some spelling development and growth in 3rd grade and up. We want to be able to teach kids how to spell morphemes, and teachers need to know what those morphemes are and what they mean. But I don't think that teachers need to know every rule, or every exception, or the different layers of etymology. That is a big ask. When I work with teachers as a coach, I want to make sure their instructional delivery is on point, that they understand data, and then we add some of this content.

Training graduate students, I used to aim for a really deep understanding of phonemes, graphemes, morphemes, and how these look instructionally, almost like an accelerated LETRS course. But they were confused. Observing in their classroom, I saw them misusing some of the linguistic terms. So I've backed off a bit and focused really on teacher knowledge of assessment and instruction, and then knowledge of the English language spelling system. That last bucket is a hard one, but I want to make sure they have those two first. Lately, when I've been talking to K-2 teachers, I say, "Even if you have a great phonics program, UFLI [University of Florida Literacy Institute], [Wilson] Fundations, whatever that is, and it's explicit and systematic, your students will often need more spelling support."

I also want teachers to understand that teaching a phonics scope and sequence can be a little different from the actual frequency of spelling patterns. For example, teaching the concept of e-consonant-e [VCe syllable, as in ***delete***] often comes before the concept of ***y*** as long ***e*** [such as in ***fancy***]. But when we spell /ē/, there's a 39% chance we're going to use ***y*** to represent ***e***, like in ***baby***. Some students, especially those with dyslexia or with any reading difficulty, have a hard time picking up those probabilities.

There's a different way to consider prioritizing certain spellings, rather than in phonic spelling, because of those frequencies. It's a different level of probabilities. For example, when I'm reading an unfamiliar word, I can probably figure it out if I know some of the GPCs [grapheme-phoneme correspondence]. But spelling requires more precision than letter order. The exact grapheme is not just a recognition task like reading; it's an actual retrieval task. That is what I want teachers to more fully understand about the writing system, it's not necessarily just the phonics scope and sequence. There's reading phonics and spelling phonics. Usually with spelling phonics, we're spending a lot more time on those variant vowel correspondences in K-2 and up, because there are so many of them. When we are spelling any word, it comes down to those pesky vowels.

MT: You have talked about elementary-school teachers, especially K-2. We know a big focus is on vowel correspondences, which can be tricky for teachers and students. What about middle- and high-school teachers? What does knowledge of the writing system involve at the secondary-school level in order to be effective? Treiman (2018) states that the study of words can become a content area. Where does that fit in teaching older students?

BC: One of the districts [where I provide coaching] is in Maine. In grades 6-12, we're working at the word level. Every content-area teacher and every ELA teacher should understand this. Starting in 3rd grade, students are exposed to over 20,000 multisyllabic words in print each year. When you start adding syllables to a word in English, these words become not only longer, they're also linguistically loaded. They're like linguistic bombs – syllable boundaries, multiple morphemes, variant vowel correspondences. Then we add in vowel stress reduction and schwa, that unbelievable reduced schwa sound. So students often need more support than what a K-2 phonics program gives them. That's a lot to take on for just the ELA teacher when we think about at-risk readers, reading difficulties, dyslexia. We need content-area teachers, especially in science and social studies, to understand that all these multisyllabic words are really content-area words, vocabulary words like ***photosynthesis***. We want them to understand what morphemes are and how to leverage those morphemes. Think of reading like a peel-off strategy, explicitly introducing the meaning and spelling of those morphemes. The research on spelling instruction past grade 3 addresses those active [instructional] ingredients to help students understand these high-utility morphemes: explicit teaching and practice. We can address this understanding of "morphological constancy" (Bourassa & Treiman, 2008). Here's the idea: the base morpheme is going to hold its spelling, but the phonology (or sound) is going to shift. For example, we have the word ***nation***, but when it becomes ***national***, we have a phonological shift, but the spelling remains the same. Same with ***magic*** and ***magician***. When we integrate word reading into spelling instruction, then students can see that morphological constancy so clearly. Those are some ways we think about embedding spelling across content areas. The science teacher can introduce words applicable in science. There are some great lists for this instruction. Devin Kearns (2026) has one on his website of high-frequency words, and suffixes, prefixes, and roots. You have such a large return in teaching morphemes in the upper grades. If you have seven morphemes, you can make about sixteen words. There's a hypothesis that Dixon (1993) stated: "If we have 750 morphemes, that gives kids access to read and spell about 15,000 words." There's a huge

Giving kids access to spelling and handwriting instruction is extremely student-centered and enhances their creativity, because we're giving them these basic skills that they really do need to write well.

– Brennan Chandler

ROI [Return On Investment] when we move beyond the sounds and K-2 phonics. Morphemes give students semantic leverage. They can understand what those words mean and gain structural clarity. For example, take these words: ***recovered, recoverable, dispute, disputed***. By peeling off the parts, we can make the spelling-reading connections really visible.

MT: Our audience is made up of Vermont educators in K-12, administration, and higher-education faculty. You used the term "writing system," which can sound so abstract. Could you just make this more concrete?

BC: Think about our writing system at different levels of language – the subword level, the word level, the sentence level, and then that discourse level. Throughout our writing system, students need to coordinate all these different levels of language. Teachers usually consider written composition as the top level, which is the discourse level. That's the finished product. But as we go further down in our writing system, we reach the sentence level, and students really need to understand syntax. Words in order and grammatical phrases help them construct sentences. In any of these levels of our language, there could be a breakdown for a student that a teacher can address. Some students have some sentence-level breakdowns. We might provide some extra instruction at the sentence level. Below the sentence level, we have the word level, which is spelling and vocabulary. And below that, we have the subword or basement level; that's phonology, how the word sounds, plus handwriting and keyboarding at that subword level, too. When writing in our system, there's a lot that a writer has to coordinate. Plus, we should include executive function and background knowledge on the topic. When we're citing text evidence, we bring in reading, which is huge after 3rd grade on state tests. Most states I work with usually have a constructed response on the state test. Reading is embedded in the writing system. You have to be able to read in order to write.

I get asked about teaching etymology or word origin. In my meta-analysis, I found this wasn't helpful. Explaining to students that this is a Greek influence or French influence, that we've borrowed from different orthographies, doesn't improve their skills. Etymology is part of teaching our spelling system, but I'm not sure the verdict's in to explicitly talk to kids about that in depth. There's usually an instructional tradeoff when I think about time. Etymology is one area where we don't know as much as other areas, but I do feel confident that helping kids coordinate phonology, orthography, morphology with spelling is the biggest bang for our buck.

MT: What role does spelling play in the writing process? What might occur in the writing process if spelling skills are not intact for our students?

BC: I think about those levels of language a lot when it comes to assessment, and in consideration of instruction and intervention. If any of those pieces break down – the sound to the word to the text – there will be negative, cascading effects on their written product. The student's working memory, which is often a limited commodity, will be compromised, especially for students with dyslexia, if all of their

attention goes to spelling a word correctly. The student can't coordinate the other aspects of the writing task, such as the sentence level or their handwriting or keyboarding, plus their train of thought.

Recently, I finished writing a chapter for an edited book, and it took me a while to write. I write research articles, but this was more of a creative chapter. Writing is so hard. I had to revise quite a lot. Writing is not linear, like reading. I had to go back, I had to change things. By the final draft, I had probably fifteen different iterations. I had written an outline, completed all my planning, but the writing process requires so much self-regulation. Executive function and self-regulation are so important that I want students' spelling to be so intact. If students have weak self-regulation or executive function, we can think about how to support them in these areas. But spelling is a low-hanging fruit to me. What's really hard are the other components.

MT: We're challenging students when they write, so if we can make spelling so fluent and seamless, then we can actually focus on the parts that are more exciting, like voice and tone. A few years ago, a student told me that writing was really hard for her, because she could only choose from words she could spell.

When we're talking about spelling, which skills does the term* spelling *encompass, and how should those skills be taught?

BC: In the research, the Big Three (also called lexical quality or triple word form theory) are phonology, orthography, and morphology. Briefly, in reading, phonology is segmenting and blending. Orthography is retrieving the correct spellings and spelling rules, such as the "floss rule" [doubling the last consonant in 1-syllable words ending in ***f***, ***l***, ***s***, or ***z***, such as in ***cuff***, ***all***, ***toss***, ***buzz***] and variant vowels [vowel sounds other than short and long sounds, such as /oi/, /au/ or /er/]. Morphology helps coordinate the word meaning. Oftentimes we've left out morphology or semantics when we're spelling, which is actually very important. Think about homophones: ***week/weak***. Does this mean the day of the week, or that I'm not strong? That vocabulary facilitates spelling. And we know how important vocabulary is for reading comprehension. So, deploying more oral language and vocabulary is always better, because it helps students with the concreteness needed for spelling. When spelling, we do all three of the Big Three, but how to teach them is a completely different story.

When I work with teachers, I think about the active ingredients of instruction. Not a spelling program that has all these bells and whistles and different activities and games, I'm thinking, if I have 15 minutes a day (depending on the grade level), what am I going to do? In grades K-2, one active ingredient is the ability for students to segment sounds. We give them practice through dictation. We show students the letter ***b*** for letter and sound, and then dictate to spell ***b*** along with other letters as well as words with ***b***. Sentence-level dictation is very important. Connecting sentence writing to text is where we see bigger spelling gains. We don't want to teach spelling in isolation. There have been some interesting

studies on this (Berringer et al., 2002). **A writing block taught separately from spelling is less effective for students than applying the spelling directly to writing composition.** Spelling in K-2 is practicing sound-spelling relationships. This takes a lot of reps [repetitions], especially for students with dyslexia. In teaching a whole class, I have different routines. One is called "sound check." Sound check is a warm-up, and I say, "We're going to orally segment really quickly." After students do this, I say,

> Now I'm going to teach you a second step – a word workout. I'm going to explicitly tell you that the vowel team ***ai*** says /ā/ in a word. And we also have ***ay***, and that says /ā/ in a word, and we want to spell those /ā/s. Firstly, ***ai*** is usually in the beginning or middle of a syllable, and ***ay*** is at the end. Let's practice it.

Then we do spelling dictation, and then apply the two spellings at the sentence level. Those types of drills are usually all we need in K-2. Then we move up to 3rd grade, where we need a little bit more. We want to leverage more orthography, specifically those variant vowel correspondences and morphology. We do different things there. For example, word sorts are a great way to help kids see those variant vowel correspondences. The students don't read the words to sort; instead, I am dictating the words. For example, if my goal is spelling words with /ē/, students write the spellings in columns, ***ee***, ***ea***, ***y***, and ***ie***. I say, "The word is ***field***. Say field back to me. Which column do you expect field to be in?" I want kids to be decision makers when they spell. We want to prime their "orthographic skeleton or expectancy,"* and they'll write that down. "Okay, the next word is ***baby***, say it back to me. Where would you expect ***baby*** to go?" Sorting and spelling word sums [such as ***hope*** + ***-ful*** = ***hopeful***) are a great strategy to use in the upper grades to support spelling. For suffixes, this can sound a bit like math. "***Brush*** plus ***-less*** equals what? Oh, that's ***brushless***. Great. Let's try it a little harder one. Let's do ***trace*** plus ***-ing***. How do we combine those together? Oh, we have to drop the ***e*** to add the ***-ing*** to spell ***tracing***.

We can also have kids break down words. "Here's the word ***separation***. What's the first syllable in the word? Oh, /sĕ/. Then /per/ right? And so on." I like to think about teaching reading and spelling together because I'll introduce a high-utility affix like ***pre-***, which means "before." I tell the students, "This is how you spell the prefix. Let's look at these words. We read them and say them. Then we spell them. Those can really be beneficial together. Each word is an Opportunity to Learn (OtL), so their responses have a very high rate of OtLs. Students need more practice with immediate error

***Orthographic skeleton: A partial, tentative mental sketch of how a spoken word is likely spelled, built entirely from oral familiarity and sound-to-letter (phoneme-grapheme) knowledge (Wegener et al., 2020).**

correction. It's an active ingredient in spelling instruction, and in learning any new skill. Immediately, when they make an error, they are corrected. That's why the dreaded Friday spelling test has to go away. That approach doesn't make sense. We're studying all week for a test, then we forget everything because we're not retrieving it constantly. Retrieval practice is very important. Even if I'm teaching a high-school student who is struggling to spell, I will use the same strategies.

MT: You've talked about the integration of spelling instruction into reading and writing. Many teachers here in Vermont and around the nation separate reading, spelling, and writing instruction, using different curricula. The curricula separate these three areas, too.

Kim and Zagata (2024) state that "reading–writing connections should be made visible and explicit" because "[m]any students do not readily see the connection between what they learn in the context of reading texts and what they learn in producing written texts" (p. 795). How can spelling and writing instruction be integrated with other components of literacy instruction, such as vocabulary, syntax, sentence writing, etc.?

BC: I highly recommend Young-Suk Kim's (2026) new book, *Cultivating the Reader and Writer*. She's a fantastic researcher out of the University of California, Irvine and just the boss of integrated reading and writing development and instruction. Much of what I'm saying comes from her studies and my own teaching and research. It is so important for students to see literacy connections. Teachers need to make literacy visible because this facilitates learning.

The meta-analysis that my colleagues and I conducted on spelling intervention showed that, when we teach spelling in the primary grades, yes, their spelling improves, but their reading improves even more.
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I work with a district in Maine that is doing incredible work in grades 6-12. Teachers have limited instructional time. We have 45-minute ELA [English Language Arts] blocks at the secondary level, where we need to teach reading and writing. Plus, many students need a lot more support. Not only will making reading and writing relationships visible help more students, but it's efficient. It's going to help make teachers' lives easier. It helps everybody when we integrate; the approach has a synergistic effect. There are different routines and strategies that we can use to make this really visible. We can easily integrate word reading and spelling often. Good K-2 phonics programs integrate handwriting with kids saying the sounds as they form the letters.

I often recommend typing practice in the upper grades. Students can be reading a text from a content area and copying the text to practice typing. Vocabulary is integrated as well. We get rich vocabulary from the text. In Maine, we are embedding writing through all the content areas in response to reading. Students are learning the "gist" routine for summarizing. Here's how it

works: Students read a paragraph and chunk it into smaller parts. They're thinking, "Who or what is the most important thing about them?" Then they write a little sentence summary in their own words. Then they chunk the text, and at the end, they'll write a summary.

We teach students to use a graphic organizer in their classes to help them make cross-discipline connections. The organizer may show a compare/contrast text structure or a problem/solution text structure. We are also integrating mentor texts in classes as well as using Self-regulated Strategy Development.*

In science classes, we focus on writing lab reports. We read both exemplar texts and reports. We analyze the writing so we can embed the skills. In high school, we get more creative because of schedule constraints, plus students have electives and credits to consider. We have to get a little more creative, but it can be done when we're intentional about teachers planning vertically across grade levels and vertically within their departments. They're all going to teach writing. They're doing sentence-level warm-ups and exit tickets, such as sentence combining on academic topics. Even the physical education teacher can help. We can get creative,

*__Self-regulated Strategy Development__ will be the focus of an upcoming article in ***Teaching Reading in Brief***. This evidence-aligned, macro-level, metacognitive approach to writing instruction encompasses developing background knowledge, mastering specific literacy strategies, and guided practice until reaching independence (What Works Clearinghouse, 2017).

but we also need to own writing in some way. We want coherence across the content areas to make the learning visible.

MT: Would you tell us more about the connection between spelling and morphology? Thinking about our content-area teachers, how does knowledge of morphemes support students' spelling and writing?

BC: That's a really important question. Morphemes are small units of language that carry meaning in English, and they stay consistent, especially when spelling. Sticking with the upper grades, morphology gives students structure to hang their hat on when they're reading and spelling. Take ***bio***, which means "life," and the words stemming from ***bio***, such as ***biography***. We can unlock a lot more. I find that this is less of a sell to individual teachers but [harder to convince them] to implement coherence across grade levels in schools. The idea is, by teaching little parts of language, teachers are helping each other out. Students will learn to spell the morphemes in ELA, and that helps them understand the vocabulary in their science text. If we explicitly teach these, we're setting our students up for success because it facilitates word meaning and text comprehension. Teachers need to understand that teaching morphemes with spelling has huge effect sizes. One program I recommend has been around since the 1970s, Spelling through Morphographs (National Institute for Direct Instruction, 2026).

Learning how to assemble words and spell through morphemes gives students the clarity for changing sounds. Take the word ***nation*** again. If I'm writing the word ***international***, I know the

sound will shift, but the spelling of ***nation*** will stay stable. Teachers can see the ROI for their students, not only on their biology exams, but in their writing. The buy-in for teachers is that they can focus more on the subject content because students don't shut down; they can do the work. Teaching morphology can be done in about 10 to 15 minutes a day. Yes, this is an overhaul to a teacher's lesson plan, but if we're intentional, we preview the vocabulary for morphology, and then students are primed to learn. Morphology has leverage here. Some teachers want their students to do well on the state exam. Or they just want them to understand the course reading.

MT: A follow-up question: Are there differences in how teachers might approach integrated instruction, depending on whether they're teaching a whole class, small-group intervention, or 1:1 individualized specialized instruction?

BC: It's not going to look exactly the same; our intensity is going to shift. In a small group, I might keep the same routines as in class, but intensify instruction with more spelling reps and OtRs. The structures will stay the same, because I don't want to confuse the students. For 1:1 services taught by a special-education interventionist, I need to align with class instruction while still filling learning gaps. I'll use words from the class text or unit to embed in my intervention.

MT: In one of the articles you shared, it was fascinating to learn that word reading and spelling have a really strong relationship, which has important implications for instruction. However, the connection between reading comprehension and written composition is less strong. As a result, students are less likely to transfer skills they've learned in comprehension to composition, and vice versa. What underlying skills make the transfer from reading comprehension to written composition harder for students?

BC: Word reading and spelling correlations are very high, about 0.8. One is a perfect correlation. As you move up the levels of language, the correlations are weaker, but still related. There's more going on – the added cognitive demands of both reading comprehension and written composition. It's not only words to write, but background knowledge. We don't need to know about the Roman Empire to spell the word ***empire***. There are more demands, like making inferences. But there's still an important relationship. Consensus research has shown that, when students write about their reading, their comprehension increases. The effect sizes are not always huge, but enough to prioritize writing to learn.

MT: In what discrete skills do students need explicit instruction, and what does that instruction look like to help them build those connections?

BC: We want to make sure that we're providing explicit instruction at the word level and the subword level. This includes spelling, handwriting, and keyboarding. Plus we give lots of practice. Explicit instruction at those higher levels is harder because there's some implicit learning happening, too. But the closer we go to the basement [lower levels] of those foundational skills, the more explicit we want to be. As we go up, instruction will be a little less explicit, and I'll give a concrete

example. Teaching a new text structure or writing genre requires less time on the actual explicit instruction. More time will be spent on the guided practice. If I'm teaching them an argumentative text structure, before students even start writing, we'll be reading exemplars. I will show them explicitly why the exemplar is proficient on the rubric. I'd say,

> Look how it has all these parts. It has a topic sentence. Let's highlight this sentence. It has reasons and explanations for these reasons to defend their argument. Here is the other side of the argument. We're going to color code the sections. We'll use a graphic organizer and pretend we're the author to backward map all of these ideas in the text, put it in our own words, and write little summaries of each part. We'll ask, "What is their core argument?" Let's write some quick notes here.

I'm teaching summarization and note-taking. We'll remember where to use capital letters. We'll draft a really strong hook in the beginning. Teachers model and lead collaborative writing as a group.

MT: What do you say to a teacher who believes that showing an exemplar for the writing assignment is cheating?

BC: We sometimes assume that our students are already experts. Obviously it's not writing, so where are they experts? Have they read that much? Asking them to write about what they just read will probably not be very successful.

Writing instruction in general has not been explicit. I learned in my college courses to teach in a Writer's Workshop model (such as Fletcher & Portalupi (2001) and other program authors prevalent at the time). This meant we did a little mini-lesson, and then the students just wrote the whole time. I myself had no clue how to write well. Throughout high school, I had one teacher, my AP language teacher, who did best practice, showing us exemplar texts, explaining rhetorical arguments, and explicitly making the actual writing visible. I couldn't write the same rhetorical arguments as the writer. This wasn't cheating; it gave me an entry point into what a good writer does. A lot of us don't feel confident in our writing and aren't good writers. Showing an exemplar and unpacking the craft are so important to making the writing process visible to students.

Instead of worrying about cheating, teachers have expressed that the explicit approach is stifling creativity. Instead, we're giving them an entry point. We give students stuff to read all the time. Wouldn't that be stifling or cheating, too? When we teach kids math, we show them completed examples. It's the same for writing instruction; an exemplar is a completed example.

We'll also show them non-exemplars, which is part of explicit instruction. For example, in phonics, I'll show spelling with the ***-ck*** rule after a short vowel, and examples of when to use just ***k***. This contrastive analysis is also needed in writing. I say to the class, "I'm going to show you a non-example."

The kids love tearing writing apart. I show them the rubric and say, “Let’s go through this. Did this get a good score in the rubric? What are the parts of the writing?” The students say, “There's no topic sentence. There are no reasons stated. It doesn’t have the other side of the argument.” They rate the example low, but this motivates them. And guess what? They're reading, too.

Coaching can be empowering for teachers. Once they understand how to teach writing in an explicit way, they see new ways of teaching voice and tone and craft with exemplars for a whole unit. Teachers tell me that their students draw inspiration from the models and look at other examples. From the models, students can adapt their writing, because they are novices at writing. The gap between novice and expert is very wide. Having exemplars shrinks that divide.

MT: Would you say that exemplars can spur students’ creativity rather than inhibit it?

BC: I definitely think so. I get a lot of questions about student motivation. Teachers feel they're not motivated, they don't want to write, they don't want to learn. Motivation is an interesting construct. We're often motivated when we're successful at doing something. Let me give you a personal example. I started pilates. At the beginning, it was really hard and not fun for me. I was not good at it, and I didn't want to go back. I was demotivated because it was so hard to do it right. I went to a different studio though, where the instructor modeled the moves better. She gave me better cues. I wanted to go back because I felt successful. It's the same thing with writing. Good instruction can spark inspiration. I can be inspired if I'm reading an exemplar text.

MT: Kim and Zagata (2024) state that the primary grades can prevent a divide between students experiencing the “virtuous cycle” and the “vicious cycle” in writing. What are these cycles and what can teachers do so that all students experience a virtuous cycle in literacy?

BC: Motivation and skill play off each other. She can do it, so she tries. When she tries, she gets better. Then she’s motivated to write or spell. But that bidirectional relationship can go the other way. He can't do it, so he stops trying, he shuts down, he falls further back. Now he’s quitting, a reasonable choice. It's the Matthew effect (Stanovich, 1986) in reading and writing – the rich get richer, and the poor get poorer. To stop that cycle, pause and sit with the idea that motivation and skill feed each other, positively or negatively. We want to build students' skills, remediate skill deficits, build them up, and have them feel successful. That's the most motivating thing for a child, especially adolescents who have been struggling to read, to feel successful.

Here’s an example. If I was teaching 6th graders who really struggle with spelling, I might not start with 6th-grade words for spelling from science or social studies. I might start with words that can be a quick win so they can feel successful. In the early grades, explicit and systematic instruction makes students feel successful. They feel, “My teacher's telling me exactly what to do. They're modeling exactly how I should do it. They're giving me practice that's exactly aligned with what I was shown. My assignment is exactly aligned with the target and practice.” It's all aligned. That feels so successful.

When students are in the older grades, and we don't have a lot of explicit, systematic instruction, we can start small and give them those small wins. Start with consonant sounds to spell. Give them some CVC words, a few at a time, so they can feel successful and don't shut down. Then we start embedding the smaller words in larger units, different morphological spelling generalizations, like the doubling rule or e-drop rule, starting small, and then building up from there.

MT: What are the signs teachers may see in their students who are going in the wrong direction and entering one of those vicious cycles? How can they intervene to prevent it from getting worse?

BC: Generally, teachers are really sensitive to this. Any sort of avoidance is a function of behavior. I'm trained in special education, where task avoidance is a big one. Escaping from a task is a sign that it might be too difficult, or too easy. Any sort of shutdown is communicating that maybe something different needs to happen here. Assessment data is very important because that tells us exactly where a student is and exactly where they need to go. A simple spelling inventory tells me where to begin instruction. Spelling inventories can be done with the whole class. Collect it, look at it, and find the gaps where to start instruction. And when students are entering those [vicious] cycles, pause and think, why are they shutting down? Do an assessment. Maybe some small-group instruction. It doesn't have to be every day for twenty minutes. Maybe just five minutes, pulling together this group of struggling spellers, to work on some vowel spellings. Maybe lengthening it to twelve minutes the next couple of days. Start small and use the most efficient assessment data to guide instruction.

MT: Traditional handwriting and spelling instruction and reinforcement can sometimes be viewed as very limiting for students by focusing on posture, pencil grip, paper angle, letter sizing, and more. Vermont has prided itself on its student-centered and creative-focused classrooms. Are these two aims in conflict, or do you see ways to combine these approaches?

BC: Giving kids access to spelling and handwriting instruction is extremely student-centered and enhances their creativity because we're giving them these basic skills that they really do need to write well. If teachers give explicit handwriting instruction, they include how to form a letter with a visual cue and an auditory cue. For example, "Writing letter ***b*** can be fun. ***B*** says what? /b/. Let's go ahead and dive down. Up and over. Make it a belly. Oh, turn it around." We make it fun and creative in that way. I do not think that developing skills and creativity are in conflict. We want to give students foundational skills to have access to writing. Then they can be creative. One of the most student-centered actions we take as teachers is giving and empowering them with these foundational skills.

MT: Last year you published a meta-analysis of spelling intervention methods for students with, or at risk of, learning disabilities. What did you learn was most effective?

BC: It sums up everything that we've talked about. On the spelling side, teach students in ways that give them access to phonology, orthography, and morphology. This looks different at different

grade levels, but continuing to teach sound-spelling correspondences and giving students lots of practice. Integrate morphology as soon as it makes sense to kids, which really can be in grades K-2. Plurals – "I have a ***brush***. Now I have ***brushes*** – I have more than one." Teach inflectional endings, later adding more academic morphemes.

MT: You have also published a meta-analysis on the effects of writing instruction on reading outcomes. What did you learn and thus recommend to schools? What is most effective to teach?

When we're intentional about writing instruction, students' reading outcomes rise. The research shows this, but schools can see this when benchmarking student reading. In some schools where I have coached, we have integrated writing 50/50 with reading. When we do this, reading achievement soars because writing is more demanding, and that benefits kids. It might be trickier and not as fun in the beginning, but we want learning to be a little challenging. Integrating writing has durable learning outcomes.

My dissertation study was conducted across four different schools for 3rd- and 4th-grade students with severe dyslexia. I was testing the differences between word-reading instruction and spelling instruction. The schools told me, "You're not going to want to work with our students. They hate spelling." Over the course of 20-25 minutes, we got in so many reps, so many opportunities to respond. I think they spelled twenty-some words in twenty minutes. The kids ended up loving it. Explicit instruction can be fun. We told them every time they got a word right, they were leveling up, which they thought was so cool.

We have to think about our own biases, how we perceive writing and reading together. If I perceive myself, the teacher, as not a good writer, then I don't like writing. In that case, how will my instruction be? Probably not great. But if I take a step back and see what are the best ways to teach writing, I can pick one thing to do to improve my writing instruction. I'm not going to do everything, but what's one way I could embed more writing? First, I can think about myself as a writer in a positive way, even before thinking about instruction.

In our meta-analysis (Chandler et al., 2025), we found that teaching spelling improves spelling and word reading. It was about the same effect size. In grades K-2, we found that spelling instruction makes greater improvements in students' word reading than in spelling. We also found an advantage for students in grades 3-5 in our spelling meta-analysis – they outperformed the K-2 students, which is something that surprised me. Usually it's harder to move the needle on any outcome, but especially on reading or spelling outcomes when the kids get older. But they had a larger effect than our K-2 participants in all those studies.

I've been thinking a lot more about this idea of orthographic expectancy, or kids' orthographic

skeletons. In the upper grades, they're so much more primed to reap the benefits of spelling instruction, because they're seeing so much text in their classes. Their eyes have been in text more; they've been reading more. Even if they're struggling readers with, or at risk for, learning disabilities, they have had more orthographic exposure to text. They could pick up more from intervention. This [potential] happens just at the time when schools usually reduce or drop spelling instruction. The last national survey was 17% of 4th-grade teachers and above taught spelling consistently (Graham & Graham, 2010). We get the biggest bang for our buck when we teach phonological, orthographic, and morphemic connections together.

MT: That's really fascinating. Is there anything else that you would like to share with us about the relationship between spelling and writing skills or about writing instruction more generally with our Vermont educators?

BC: We have covered a lot of ground. I've been going back to the adage, "If we cannot write well, then we can't think well." **We want to make sure in this age of AI that we are really empowering our students. I want to sound urgent when I talk to teachers about writing in the modern classroom. When some teachers allow students to completely outsource their drafting process to AI, which I have been seeing more and more, students and teachers aren't saving time. Instead, we are relinquishing the development of our students' own minds.**

I emphasize to teachers that this cognitive heavy lifting happens every time during the messy part of writing, and we don't want to bypass that. That might leave students intellectually starved. Writing is nonlinear, which is part of what makes it difficult to teach. Reading instruction often has a clearer instructional progression: students need to learn how the code works and how to apply it. Writing certainly requires explicit instruction in skills, processes, and knowledge, but those elements come together in a more recursive and unpredictable way. I want teachers to lean into that mess a little more. Writing is hard intellectual work. That is precisely why we need to prioritize it more than we have in the past, giving students frequent opportunities to write, think, make decisions, and work through the difficulty with appropriate support.

In a recent podcast, Brené Brown (2025) talks about the rise of the thinking class. She says that Steve Jobs never let his own kids have iPads. But who has iPads? It's more low-income communities having iPads at the dinner table. These children are not exposed to as much oral language. If we want to level the playing field (which is why I love education – the great equalizer), we can provide good instruction, give kids a voice, and help them think. They are part of the thinking class. We're not letting others do their thinking for them using generative AI.

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About Dr. Brennan Chandler

Brennan Chandler, PhD is an Assistant Professor of Dyslexia in the Department of Learning Sciences at Georgia State University, and the coordinator of the graduate dyslexia endorsement program. His research on spelling intervention and multisyllabic word reading has appeared in Journal of Learning Disabilities, Learning Disability Quarterly, and The Reading League Journal, and has been featured in Education Week, Mashable, and K-12 Dive. He is the 2025 recipient of the John Wills Lloyd Outstanding Research Award and regularly partners with schools, districts, and organizations to bring evidence-based reading and writing instruction into practice.

Meet the Team



Marisa N. Thomas, M.Ed. is a literacy-intervention specialist with experience teaching structured literacy to students ages 6-16. She completed her undergraduate degree in Early Childhood and Childhood Education at the State University of New York at New Paltz, and then her Master's Degree in Reading and Literacy Education from Old Dominion University. Following her Master's program, she began her journey toward specialized structured-literacy instruction and understanding the science of how the brain learns to read and write. Marisa went on to earn her Associate Level Orton-Gillingham certification through the Stern Center Orton-Gillingham Institute. Marisa has experience as an elementary and middle school classroom teacher and literacy tutor in New York, Virginia, and Vermont. She currently enjoys her role as a literacy interventionist working with students in Barre, VT.



Dorinne Dorfman, Ed.S., Ed.D., A/OGA, has served as a teacher and principal for 30 years in Vermont schools. After completing her undergraduate studies at Goddard College, she earned her Master's and Doctorate in Educational Leadership at the University of Vermont. As a postdoctoral Fulbright Scholar, she taught at the Technical University of Berlin and conducted research on democratic education in Germany. Since completing an Education Specialist Degree in Reading and Literacy Instruction at Bay Path University, Dr. Dorfman teaches evidence-aligned literacy at Barre Town Middle School.



Dr. Brenda Warren has been studying and evaluating reading instruction for the past 20 years through three different lenses: as a pediatrician, school board member, and parent of a now-adult son with dyslexia. Her main interest has been examining how districts can overcome barriers preventing scientific reading research from fully impacting classroom practice, with a goal of ensuring that academic equity is present in our schools. In 2010, her work led her to pursue a doctorate in Education Leadership to study this topic in more depth. She graduated with her PhD in 2018. Her dissertation title is: *Closing the Science-to-Practice Gap for Reading Instruction: A Case Study of Two Schools Transitioning from Balanced Literacy to Scientifically Based Reading Instruction.*