

Technology Tools to Support Student Writing

Part 1: General Education

An Interview with
Nanci King Shepardson
By Dr. H. "Bud" Meyers



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Nanci King Shepardson is the founder of Schoonmaker Scholars, a national consulting group specializing in literacy and assistive-technology instruction. The organization provides individualized academic support to students and professional development for educators and parents on leveraging technology to address literacy and high-incidence learning challenges.

Editors' Note: This interview is the first of a two-part series on technology and writing development. Here we focus primarily on instruction and supports in general-education settings. The second article will address these topics in special education.

H. "Bud" Meyers: Nanci, could you just tell us a bit about your background and what brought you to reading science and your focus on assistive and educational technology?

Nanci King Shepardson: First of all, thanks so much for having me. My undergraduate degree in Massachusetts was in infant-toddler development and preschool kindergarten curriculum. I moved to California, where my K-3 Early Childhood credential transferred to a K-12 credential. I chose kindergarten and had a wonderful job in a unified school district about an hour and a half outside of Los Angeles. There I had 33 kids on the first day of school and 33 kids on the last day of school, only 16 of which started and finished with me. The entire year was this incredible revolving door, which set me up well to become a very flexible educator, as you can imagine. We moved back east, and I started teaching 4th grade.

That was when it became abundantly clear to me that some kids were getting it when it comes to reading and writing, and some kids were not. And why was that? So I started graduate school at Simmons University and became a K-12 reading specialist. One course, Introduction to

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Assistive Technology, compelled me to pursue both. With the support of two fabulous program directors, I completed a Master's Degree for Assistive Technology and a Master's for Language and Literacy in three years. That really allowed me to develop this expertise in what I call high-incidence disabilities – dyslexia, dysgraphia, dyscalculia, ADHD, executive functioning – and the technology that can support the struggling reader, writer, speller, comprehender.

Eventually I became an administrator in an independent school in New York City, where I ran the learning resources department and oversaw students with documented disabilities. Then Barbara Wilson [of Wilson Language Training] asked me, “What do we have to do to get you to come to Wilson?” I stayed with them for about eight years, where I earned my CPACC credentials, so I'm a Certified Professional in Accessibility Core Competencies.

Now I have my own consulting company called Schoonmaker Scholars, where I provide professional learning for teachers, guidance for parents who are navigating the IEP [Individualized Educational Plan] process, and dyslexia remediation for students. Additionally, I conduct assistive technology (AT) evaluations and AT consultations. I still continue to give accessibility guidance to groups when requested. I will end by saying I'm also the parent of a grown child who is dyslexic. My journey started with my own child.

HBM: A theme of the writing series for Teaching Reading in Brief is, “Writing is thinking.” What does this mean to you?

NKS: I think writing is the hardest thing we ask kids to do. Writing is highly metacognitive. We have to think about our thinking in order to be a proficient, automatic, and fluent writer. I have a presentation about writing entitled “The Perfect Storm,” because everything comes together when we write. We have to think about vocabulary, spelling, usage, syntax, semantics, and more. Writing pulls on every single possible skill that we have in that umbrella of English language arts. And we're asking kids to put everything they know about every single one of these skills and apply them all at once. So when we say “Writing is thinking,” it's like thinking on steroids. Writing is a highly metacognitive process that requires different kinds of thinking simultaneously.

HBM: What is the difference between educational technology and assistive technology, and how do these connect to teachers' writing instruction and student practice?

NKS: Educational technology are tools that provide extra or targeted practice in a specific skill, such as found in products like Amira or IXL or Project Read AI. Assistive technology is technology that allows a student to show what they know when they otherwise could not. An example is text-to-speech. If I am a 5th grader with gaps in decoding skills, I'm going to use text-to-speech as an assistive technology to read 5th-grade content. The big difference is about accessing grade-level content when the student's skill set at that moment doesn't allow them to do that independently.



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HBM: Which technologies, either assistive or educational, have researchers found to improve student writing in tier one classrooms?

NKS: I think the two — and these are not necessarily tech — are graphic organizers and exemplar texts (Boon, Barbetta, & Paal, 2018; Graham et al., 2023). Graphic organizers can be super-low tech, but don't have to be. Technology doesn't have to have a ton of bells and whistles. Low-tech graphic organizers can be done digitally or with paper-pencil. I'm a big fan of using paper-pencil with students. Hybrid can be good. Sometimes we'll find things digitally that we think look good from a pedagogical or instructional perspective, but we really want that kid to do it using paper-pencil. We can print it out. That's a hybrid approach: we found it on a computer, but we printed it to be used in the traditional way. Graphic organizers have lots of evidence (Boon, Barbetta, & Paal, 2018; Graham et al., 2023) to support the organization of thought. We see graphic organizers in every educational setting, from regular to special education.

Secondly, exemplars or mentor texts (Graham & Perin, 2007) give students a model to understand what they're shooting for. That doesn't mean that you give them the answer. An exemplar can be a model of a five-paragraph essay — what does it look like? What does one paragraph look like?

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What's the difference between a topic sentence and a concluding sentence? The research is clear that we have to model that for kids. We can't just expect them to figure that out.

Whether we're talking about regular ed to special ed, instruction in Tier 1 always needs to be explicit and systematic, multisensory, and cumulative. We shouldn't save this good stuff for the kids who struggle. Without a doubt, we want to provide this in Tier 1. We don't want to leave anything to chance when it comes to writing instruction. It has to be explicit, and exemplars are one really good way to make expectations explicit. This is exactly what I want you to do, the end result we're shooting for. Maybe you use a graphic organizer as part of chunking, breaking things down into manageable pieces. We often hear that used in more of a Tier 3 setting, but that's good for all kids. Not all kids intrinsically get it — here's the beginning, the middle, and the end, and this is the conclusion, and this is the summary sentence, and this is the transition. Kids don't necessarily innately know that. That all needs to be explicitly taught and explicitly modeled.

A question that often comes up is keyboarding, which in the old days we called “word processing,” but it's typing. When should we start to introduce typing and getting those thoughts down on a keyboard? It's not so much about the age. We really want to make sure kids' handwriting skills are intact before we introduce keyboarding. I'm talking about Tier 1 instruction, not students with a graphomotor disability. We want that motor memory of writing by hand to be firmly in place before we start to introduce tech.

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HBM: What are some examples of how an effective writing block might be in a 1st grade inclusive classroom?

NKS: This may seem odd, but I'm going to be really clear about this – the foundation for writing in Tier 1 is oral language. In 2000, we had the National Reading Panel, where they talked about phonemic awareness, decoding, fluency, vocabulary, and comprehension. The body of research in 2000 was not overwhelmingly clear on the value of oral language, but we know this now. I'll point out just one study. If you read nothing else, read the work of Rachel Romeo, who did a remarkable study that shows the value of oral language, specifically what she calls “serve and return” language. As the teacher, I say something, the student replies, then I respond to the student, and the student responds, and this goes back and forth like a tennis match. Serve and return. Romeo’s (Romeo et. al., 2018) research showed that the more serves and returns in oral language for students, regardless of socioeconomic background, the more sophisticated their language skills were later on. Oral language might seem counterintuitive when we're talking about writing, but this is actually the most important bedrock. We pour on that oral-language foundation thoroughly, before we even think about teaching writing. Then, during the Tier 1 writing block, instruction in 1st grade is systematic, explicit, multisensory, and cumulative. One skill is taught at a time. There is a sequential scope and sequence that makes developmental sense and is based on research on how and when to teach these skills, and instruction is based on

mastery. We don't move on to Skill B until students show that they can do Skill A. It's a foundation that is built one block at a time based on student mastery, and those skills build on each other.

When you think about what I just said, then how do you use technology in a 1st- grade classroom?

There won't be a whole lot of tech in a whole-group lesson. The teacher might be using a projector or whiteboard, projecting in really big font so that everybody in the classroom sees it. That would be one way to leverage technology. If it's a small group lesson, maybe the teacher will use a mini whiteboard, or sentence strips, or a pocket chart. This may not require a whole lot of high-tech when working with a small group of kids. It's really important that the instruction and the expectation of student work match. If the teacher is showing all this high-tech stuff to students, but that's not what we're asking students to do, that's confusing. Instead, they could model what a sentence might look like using tech, but when they're writing that sentence, or talking about capital letters, end punctuation, or about subject and verb agreement, they're using handwriting. They're physically modeling that for kids, because that's where kids need to start, writing with their hands using paper and pencil. When we get into the Tier 3 conversation, I will have a very different answer. But in the general-education classroom, that's the most technology I recommend.

On second thought, I would add two points about using technology for teaching vocabulary. First, I'm seeing some promising progress for leveraging technology to augment vocabulary skills, such as TextProject. The technology is engaging, and



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and engagement is important. If we can use this tech in a very prescriptive and discerning way, and so it remains novel, then we can engage kids to develop their oral language, improve their vocabulary, learn how to make their sentence structure more elaborate, and more.

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Second, I have enjoyed using AI [Artificial Intelligence] to develop interesting images. I develop the images on my own beforehand, and then I put the image up for students to see. I try to see what language kids come up with, inspired by looking at this really interesting graphic. Some of them are ridiculously silly. We talk about what doesn't make sense in the picture. I might have a lion in a swimming pool. This generates important oral language – how do kids use words to explain what they see? This can help develop their vocabulary, increase the number of syllables in their words, and lengthen their utterances. My instruction is augmented by leveraging AI to create really fun images. But again, I don't generate the images with kids.

HBM: I'm going to jump to the side where the technology tail starts to wag the dog. Important questions arise regarding hard-copy literacy tests. Online textbooks and assessments have become ubiquitous as students type writing assignments. Have you found research that compares reading from hard copy with reading on a screen?

NKS: I'm going to start with comprehension when using traditional reading, paper-based reading, versus comprehension when reading on a screen. And while the world of research is always changing,

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at this time, when I do a deep dive on this particular question, overwhelmingly, I find that the research is showing that comprehension is compromised when students are reading only from a screen. Marianne Wolf's (2018) book, *Reader Come Home*, does a very nice job of explaining this research in a very digestible, understandable way. Here are a couple of findings she mentions. Leveraging eye gaze technology, researchers are able to monitor the tracking of students' eye movements while reading on a screen. She talks about this concept of "F reading." When students look at a page of text on a screen, they read the first top line. Then they go back. They skim down to the bottom. Then they go back to the middle, and they

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read kind of a middle line, so it makes the letter F. And then they move on, which, as a reading specialist, I think is horrifying. No surprise that if kids are doing this kind of reading on a screen, that their comprehension is impacted. How could it not be? They're missing probably 90% of the content on that particular screen. In addition, we're seeing shallower metacognitive processing when students are reading strictly on a screen. Now, is there research that shows the comprehension can be comparable? There is. That research talks about when kids are explicitly taught to read on a screen. That's the big difference. Just like in writing, we need to teach kids to write by hand first before we even think about having them type. The same thing applies to reading. In teaching a kid to read, that kid is learning on paper. They're going to scoop phrases. They'll mark it up or track it however they want, but they're doing that on paper.

There's something called haptic dissonance (Gerlach & Buxmann, 2011). That means, when a student is reading only on a screen, they lose sense of where they are in time in the trajectory of the story because they're not turning pages. You know that feeling when you get towards the end of the book and the left side of the book is heavier than the right side of the book? You're almost done. That shifts our comprehension lens when we are sensing in a haptic way a story passage unfolding. I have a very different lens when I am reading a book in the first chapter as opposed to the last chapter. My comprehension skills morph based on where I am in that reading journey. Haptic dissonance happens when you don't have that tactile experience, and you're just

scrolling through a screen. You don't necessarily know how far you are into whatever it is you're reading. Haptic dissonance interferes with comprehension. We definitely see that comprehension skills are not as robust when kids are strictly reading on a screen, and that the comprehension skills are greater and more sophisticated on assessments when the student has read traditional paper-pencil.

HBM: What are the findings when it comes to writing, especially to increase reading comprehension? I'm talking about note taking, paraphrasing, summarizing, answering comprehension questions, sentence writing, and paragraphs.

There is ample evidence (Van der Meer & Van der Weel, 2017) showing that when students are taking notes, paraphrasing, summarizing, or answering comprehension questions by hand, what they remember is significantly increased and improved compared to doing this on a computer. They call the latter verbatim transcription. It means I'm writing every single word the way you say it. When I do that, I am using very few cognitive calories. I'm not thinking about what you're saying, I am just madly transcribing on the computer. Now, if I'm writing it by hand, I can't possibly do verbatim transcription. It's not possible physically. So I have to listen to what you've said. I need to decide if it's important. I need to connect it with something I might have learned previously. Or I might form a question and think, "Oh, I want to dig into that later."



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All of that metacognition, thinking about my thinking, requires me to “nutshell” it. What’s the most important thing that I should write down? That’s the one thing I have to come back and revisit, or I want to dig into more. That creates long-term memory and content that sticks, that I can call up later and actually remember who was talking and what was said, because I was more metacognitive while listening. When it comes to note-taking, I’m a big fan of paper. I have a couple of tools that allow for taking notes and summarizing. It looks like paper-pencil, but it has a companion app that allows you to turn your handwritten notes using OCR [Optical Character Recognition] into typewritten notes that can be sorted. You can use them for an assignment coming up or turn it into a study guide. There’s all sorts of things you can do with your handwritten notes when they’ve been turned into text on a screen.

For some kids, that’s a game changer, because they don’t worry about their handwriting, or worry about catching every word, because they know they can go back and look at their notes later and flesh them out.

In sum, writing by hand increases metacognition, for all learners. At the end of the day, kids have to exercise writing to absorb what’s important and remember what was taught.

HBM: Which technological tools can foster students’ writing development, instead of reducing the potential for growth?

NKS: Let’s go back a little bit. Hard copies of online materials and assessments, a common

practice for the classroom and as an accommodation, are really important. This is a really good question, and potentially controversial. Districts are leveraging digital options because they provide cost savings. It is cheaper. And while I understand that, since there are only so many dollars in the budget, I encourage anybody who is in a decision-making capacity to rethink that, because the hard copy is essential for all students learning in all tiers for that same reason of that haptic dissonance, and the impact of the physical, tactile experience of turning pages on metacognition. In addition, text structure is easier to discern when you have the hard copy in front of you. What do I mean by text structure? I mean, “This is chapter 13. Here’s the title of the chapter, Metamorphosis,” or whatever it might be. “Look, here are Roman numerals I, II, and III. That probably means that those three things are important.”

Students need to learn how to navigate and translate text structure, especially as they reach the older grades. Because let’s face it, in the last years of high school and in college, you can’t read every word. There’s so much reading in those years. Kids have to learn how to prioritize based on analyzing the text structure to identify what is essential. Having experience with hard copies sets the stage for that. If you have no experience with hard copies, you’re sunk. Navigating digital textbooks will be really hard. We’ve got to start with traditional textbooks. For kids needing that digital component, they absolutely will get it. That’s part of Universal Design for Learning. We want to design for all types of learners, and that includes digital, but it also includes hard copies.

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Returning to this question, are hard copies of online materials and assessments a common classroom accommodation? Yes, they are, but less so, as we see more and more going all digital. We want to be really careful about that, because whatever we use to assess students has to be mirrored in how we teach. We can't assess in a whole new way from their instruction and practice. If instruction is in hard copy, but we're testing on a computer, then we're assessing students' navigation of that technology, not necessarily whether they comprehend text.

Next, I don't think there is a universal accommodation for that yet, but wouldn't it be great if that were written into every IEP for a student to have access to traditional hard copies of everything?

Best practice is to make sure you have both. If we want kids to take assessments online, then there has to be explicit instruction on taking tests online. That itself is its own skill. If a student is not comfortable taking a test online, then are you really measuring their performance on the test items? There's a place for online assessment if we are sure that the student is fluent and automatic with taking assessments on a computer. But if we can't say this absolutely, then a test on a screen could take a kid's anxiety through the roof. What are we measuring there? We're not measuring their comprehension skills.

HBM: Should some technology-based writing accommodations be for all students, not limited to students with a learning plan? For example, should all students have access to options such as spell check and grammar check? Is there anything more that you want to highlight related to AI?

NKS: We want to allow kids to show their learning in multiple ways. That might mean that some kids need a spell checker or a grammar checker, and some kids don't. That's good teaching. Some kids are going to need text-to-speech to hear what they've written so they can revise better, and some kids don't. Some kids are going to need speech-to-text [dictation tool] to get the ball rolling. Some kids won't. A universal design for learning includes a toolbox from which students can leverage those tools to show what they know. The tools will change over time with instruction and student development, as well as changing grades and subjects. The toolbox in math is going to be different from the toolbox in social studies. That requires students' metacognition. The student has to say, "Alright, what is it that I have to do? What's my end goal here? If this is my goal, then what are the tools I can use to get to that goal?"

As Artificial Intelligence is now, we want to get the ball rolling with a lot of supervision. Not to be dramatic, but the danger of kids getting into places where they shouldn't be is high. AI can be very powerful in the area of writing, but don't let kids fly solo with it just yet without a lot of explicit instruction. There's a tremendous amount of instruction that needs to happen before we're going to let kids fly with AI independently.

Without going down the AI rabbit hole, I don't think we should be allowing AI in isolation for the use of writing at this point in time. It's too new. I would have a different answer if we were talking about organizing a student's schedule or managing deadlines for work completion. For

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writing, I don't think we should use AI without very firm guardrails and working norms. Educators need to learn much more for teaching kids how to use AI for writing in a responsible way.

This needs to be a building-wide conversation about working norms. AI needs its own set of working norms. This may overlap with other working norms, but there will also be some specific things, such as, we won't use AI for research, for example. Letting students use AI too soon won't help them develop their writing skills. Hard stop.

HBM: When AI is described as a “thinking partner” for students, it sounds like you're skeptical.

NKS: I am. This is not to say that AI won't get there, but we just don't know enough yet, and we have other good options. It's not like we have nothing else to leverage. Think of tools such as Inspiration that have a robust mindmapping tool for kids who struggle with written organization, and even for kids who don't, the tool offers a nice road map. If the teacher says, I want a compare and contrast essay with a minimum of 5 to 7 paragraphs, students can go into a tool like this for a template they can alter. It just breaks the task

down into manageable chunks. In the writing process, some students don't necessarily know what “done” looks like. A tool that shows the pieces to do and the order of the pieces actually models the writing process for them. Eventually, the scaffolding comes away, because students have internalized how to write a five-paragraph essay. These organizational tools for word processing are definitely worth leveraging. Usually, teachers will find that most, if not all, kids benefit. There's lots of good stuff out there, but I don't think we need to just lean into AI just yet.

HBM: In terms of instruction, how does the gradual release of responsibility look when it comes to technology-supported writing instruction and practice? What pitfalls have you seen in student learning when the gradual release of responsibility was poorly implemented?

NKS: We have to be much more deliberate about which tech, why, and for what purpose. Tech for tech's sake is a red flag. Tech in place of good instruction is another huge red flag. We never want tech to replace good instruction, because it's impossible. Nothing is going to replace a committed, skilled teacher.

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And when we use tech, we have to teach it. We can't assume that the user, the student, is going to automatically understand how to use whatever tool we're suggesting. We need to use Anita Archer's (2011) instructional approach of, "I do. We do it together. You do." I'm going to demonstrate it, and you watch me. Then we'll do it together. I'll help you, and then you'll do it, and I'll watch. I'll be there to catch you before you fall, and then eventually, you'll have it. That's the gradual release of responsibility. It's when we skip one of those that we get into trouble.

People in my generation often assume that kids will figure out tech more or less on their own, as if they just came wired knowing how to figure out all things technology. This really is not true. Take AI – nobody has an upper hand in AI. We are all muddling through AI together unless you invented Chat GPT. That can get dangerous, when we assume students will use the tool correctly, appropriately, and at the right time for the right task.

HBM: In the student's school experience, what role should technology play or not play?

NKS: When I was teaching writing as a 4th-grade teacher, the curriculum had a heritage project. This particular curriculum took this giant project and broke it down into its tiniest pieces. We started right at the very beginning, and it was all paper-pencil. Kids were brainstorming and writing it down. Eventually they got to the point where they said something like, "Okay, I'm from Canada. Here are the three things I know about Canada." There were paper strips for the three things I know about Canada. Then we did the research. The three things known about Canada were color-coded. As they did the research, when they found a yellow fact, then they wrote that down on a yellow piece of paper, and it went in the yellow pile. When they found a blue fact, it went in the blue pile. You see where I'm going with this. Everything was color-coded, and it was all done by hand. Then they wrote their sentences. They cut them up and color-coded them. These are all the sentences for the blue paragraph. Here are all the sentences for the yellow paragraph, etc. Then they literally glued those colored pieces of paper onto a big piece of paper. So they had this huge exemplar of what would end up being a multi-paragraph essay on the country they were from. This took weeks, probably at least a month. But it wasn't until it was all glued and handwritten on this giant piece of paper that we went into the computer lab and started typing. These are the components teachers need to remember, starting at the very beginning and building the sentences sequentially and systematically. Color-code or categorize like items in a way that makes sense to kids. Chunk it together or put it in buckets. But all of that happens before we even start to think about typing. This applies to every grade. It might go faster in 9th grade as opposed to 4th grade, or 12th grade as opposed to 9th grade, but the premise is the same. You need to start at the very beginning and build it piece by piece.





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If we just say, “Here’s your writing prompt,” putting everybody in front of a laptop and they just start typing, what usually happens is gobbledygook. But if we put pen to paper and organize our thoughts, then when they get to the laptop, what they write will actually make a whole lot more sense.

In terms of learning, you have to crawl before you stand; you have to stand before you walk; and then you have to walk before you run. It’s that same idea when it comes to writing. We’re going to make sure students are forming their letters, then we’re going to make sure they’re connecting their letters, and then we’re going to make sure they have spacing between their words, and so forth. All of that has to be in place before students begin to type. Once the fine-motor skills are in place for handwriting, it’s usually 4th grade that we begin typing. I will go one step further in saying, let’s make sure their typing skills are fluent and automatic before we introduce texting. The reason is, if they start texting before they start typing, they will never become accurate, automatic, and fluent typers. Texting is a totally different way to represent language, using your thumbs, as opposed to using all ten fingers on a keyboard. That motor memory of texting will interfere with the motor memory needed to develop fluent keyboarding.

HBM: There is a need for learning skills as well as a need for work completion, especially in middle and high school. Considering this tension between process vs. product in a student’s school experience, what role should technology play or not play? What should elementary teachers prioritize? Is that also true in grades 4-12, and especially in high school, where credits matter?

NKS: Elementary school versus a middle or high school would be different. Ideally, there’s not a lot of technology in K-5 unless there’s a really good reason, such as a student with a disability. Maybe this child has cerebral palsy and has no use of their hands. That student will use speech-to-text [dictation tool for writing]. There are many scenarios where that would be the case, but for the most part, in K-5, technology will be limited, because we need to establish the skills.

In grades 6-12, a team of teachers needs to decide which computer or technology skills they want kids to master, and by what age. For example, as a team, we decide on word processing, because that’s really important. We all agree to that. Okay, when do we want them to be fluent and automatic word processors? This is really the beginning, because there are all these skills built into word processing, not just typing, but the find feature, or the thesaurus feature, or the dictation feature that’s built into Word now, or the synonym feature, or the word count, or there’s Flesch-Kincaid. Flesch-Kincaid is built into Microsoft Word, and you can turn it on or off. For some kids, this is amazing, but for other kids, it’s an utter disaster. Flesch-Kincaid analyzes your writing and reports the grade level of the text written. It might say, “This appears to be written by somebody in the 5th grade, 2nd month.” It’s an algorithm, so it’s not perfect, but it measures how many words are in the sentence, and how many syllables are in each word. So the more syllables and the more words, the



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higher the level. Some kids are super competitive and want to raise their writing score, so they go find more sophisticated words.

Maybe they put seven words in your sentence instead of five. Other kids get so fixated on the score that it derails the entire writing process and ends up being counterproductive. These are just examples of technology that teachers would discuss and decide what's important to teach.

HBM: I'm wondering about the tension of using the technology to complete the work versus using the technology to learn the content or learn the skill. A student may copy and paste their way through a PowerPoint to read off the screen, but they didn't really learn much of the content.

NKS: That comes down to teaching. The teacher is modeling learning for the students. She is not just grabbing something off of Wikipedia and throwing it on the whiteboard, saying, "Here's the definition of whatever." She's modeling curiosity and investigative methodology, and asking, "What do we want to learn about?" Let's say it's Greek mythology. How does the teacher model how they'll learn more about Greek mythology? What are the resources in the classroom? How do we learn this new content and show our learning, without just regurgitating verbatim transcription. Teachers show how to curate different print and online resources. Let's use color to find and highlight what we're looking for. Let's color them pink and paste them into a Google Doc, or whatever word processor is used. Then the teacher shows them how to read through this copied information, pull out what's important, and then perhaps put it into a PowerPoint or other

project. But the focus here is process, the investigating part. We're not in the final product phase. This goes back to working norms for the classroom. When we're learning new content, it's not about regurgitating, but about understanding.

HBM: What else would you like to share with Vermont educators about technology and student writing?

NKS: This returns to the beginning of our conversation, that writing is a process, and not a project. In the act of writing, while there might be a final draft, even after something's published, a professional writer would probably say, "You know, if I could go back, I'd probably change this." It's just never done, even after it's published. That's the mindset that we want to impress upon teachers and students: Writing is a never-ending iterative process. And while that may sound daunting, it's actually just good thinking. To reflect on what you've written is good thinking. It's being metacognitive. You want to think about what you did or what you didn't do, and how you will do it differently next time.

Writing can invent. Writing can plea. Writing can make money. Writing can persuade. Writing can be beautiful. Writing can be moving. Writing can touch hearts and minds. Writing can be public. Writing can be private. Writing can start young. Writing can last a lifetime. Writing can advance a career. Writing can object. Writing can make movies and TV shows. Writing can translate. Writing can spread far and wide. Writing can convince. Writing makes us human. Writing educates. Writing can petition.

Writing is for everyone.

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About Nanci King Shepardson, M.S.Ed., Ed.S., W.D.P., CPACC

Nanci King Shepardson is a Reading and Educational Specialist with a distinguished career dedicated to literacy, learning, and access for all students. She holds a Bachelor of Science from Wheelock College in Preschool/Kindergarten Curriculum and Infant/Toddler Development, a Master of Science in Education in Language and Literacy from Simmons University, and an Education Specialist degree in Assistive Technology, also from Simmons University.

A credentialed K-12 Reading Specialist, Nanci is recognized by the International Dyslexia Association, holds Wilson Reading System certification (Level 1), and is certified by the Center for Effective Reading Instruction (CERI). In 2022, she earned the Certified Professional in Accessibility Core Competencies (CPACC) credential. Her classroom experience spans preschool through 4th grade, with specialized work as a Reading and Educational Specialist serving students in grades 7 through post-graduate, as well as tutoring learners of all ages.

Nanci consulted for the International Dyslexia Association, authored published works in her field, and is a sought-after national speaker on dyslexia, high-incidence disabilities, and assistive technology. She is a committed advocate for students with disabilities and their families. Grounded in the science of reading and current assistive technology research, she serves as a trusted resource for parents, educators, and schools. Equity and access, particularly access to evidence-based reading instruction and assistive-technology services, are central to her professional mission.

Nanci brings both professional expertise and personal insight to her work, as the parent of an adult child with dyslexia.

Meet the Team

H. “Bud” Meyers is Professor Emeritus at the University of Vermont (UVM) where he taught quantitative methods, evaluation design and leadership development from 1971 through 2013 and served as the director of the James M. Jeffords Center for Policy Research. From 2000 through 2006, while on leave from UVM, he served Vermont as Deputy Commissioner of Education for Assessment and School Improvement. Bud has designed and conducted program evaluations for a wide range of education and human service programs. His experience includes twenty studies of state educational and human services programs for Vermont’s Research Partnership and the Jeffords Center as well as fifteen program evaluations carried out as an independent evaluator for Lighthouse Evaluation from 2000 through the present. The latter focused on the Mathematics and Science Partnerships (MSP) programs of the National Science Foundation and U.S. Department of Education based in Massachusetts and Vermont. He currently serves as Director of the consulting group Lighthouse Evaluation, LLC.





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*.

