

WOMAN: Well, good morning.

AUDIENCE: Good morning.

WOMAN: We're so pleased that you are all here to hear Dr. Janet Sturm talk about implementing effective writing instruction for our students with the most complex instructional needs. And we're delighted to have her here. Dr. Sturm is a professor in the Department of Communication Disorders at Central Michigan University. Her research and clinical interest have been developing writing instruction for students with developmental disabilities, computer supported literacy, time together literacy assessments and instructional strategies and classroom communication. You are here to hear someone talk about raising expectations for our students and I think you will be delighted.

DR. JANET STURM: Thank you. I'm so excited to be here. And I'm really glad that we got the technology to cooperate somewhat. So, I am excited to be here because this is really in our short time we have together, a combination of my life work, 20 plus years. I have been working in special education classrooms since the late 1980's. And there was a treat last week, I was at ATIA. And some woman came up and said, "I was in your ASHA short course, Speech and Language Convention in 1989 when you presented the classroom communication checklist for students who use AAC." And I said, "Wow. So when I tell people I've been doing this for 25 years, you can back me." This is a labor of love and I better get started since we're short on time. I guess we're not going to take a break. If you need to slip out during this session, please do. But I'm going to be talking about instruction. I'm going to be talking about assessment and talking about accommodations for students with complex needs. And so what I always like to start out talking about is what typical writing looks like in your average child. And we know that there's research that Tolchinsky reports that says as early as 18 months, kids -- typical kids make meaningful marks on a page. And we know that, because if you give them a pencil that doesn't have a lead, they stop doing it. And so kids start at a really early age, don't they? Scribbling, making shapes, you know, two, three years of age. And then they move into inventive spelling. Now, we know that kids inventively spell for years. My Olivia who's now 10, she was a rabid writer as a three-year-old. And she would fill entire pages with random letters and say, "Mom, I just wrote research for the big kids to read. It's all about fish." And then she would tell me facts about fish. And she was writing -- but it was random letters. What's striking to me is Olivia probably did that thousands of times before she became conventionally literate. I think I forget how many different types of texts I had documented by the time she was four or five. It was like 30 different types of texts that she was playing around and exploring. Now, if we have a student with complex instructional needs, who is putting random letters on a page, or they bang on a keyboard and we -- they can't really tell us what they just did and they couldn't draw a recognizable drawing. We might say, "Hey, they're not ready." So food for thought, there's my first food for thought for the day. We know the beginning writers are single session writers. In a first grade classroom, they write, they plan their topic, they draw a drawing and then they're done. Draw a drawing and write and then they're done. We -- I'll talk about the text types that we see in typically developing

children and my research in just a couple of moments. You know, Olivia said, "I'm writing stuff for the research for the big kids to hear." That showed that at an early age she had a sense of audience, but many kids don't. They do it for their own self-motivation. When kids write, they talk a lot. So just like when you walk into a first grade classroom -- I'm not supposed to be in front of the screen. When you -- he hasn't busted me yet, he just wanted to. I'll stay right here. You braid me in, get the hook. So in first grade classrooms, during sustained silent reading, it's never silent, is it? They don't have an inner voice yet. So they're kind of reading out loud during silent reading time. Same thing goes for writing. Kids talk a lot. They chat about what they're drawing, they chat with their peers, they show each other's stuff. That has implications for students with complex instructional needs. We need to make sure they have a means to communicate while they're writing. And their AAC system can't also be the writing system. And then they've got no way to talk while they're writing. We've got to be really careful that they can do both because that's what good writers do. And they use pictures to convey the message. And I'll show you that in a moment. And we know that by early second grade, most children are conventional spellers. And we'll look at how many times, for example in a first grade classroom they do that to get there. So, here is an example of Olivia at age four. And here's the drawing. And again she could use her words. Let me tell you, she said this is Cinderella. And now you go, "Ah, I see the crown." By the way, that's the fairy godmother and the carriage, she's tired from the ball, she's resting. So, but think about the student with complex instructional needs, who can't tell us what they meant, in fact, their fine motor skills, they actually could only put a few scribbles on the page. So Jim Cunningham and I, my colleague who was a collaborator on the First Author Software project, he -- we talked about how drawing is the planning stage for the beginning writer. And so every student needs access to meaningful drawings whether they're five or twenty-five, more on that later. So we did research in general education classrooms to look at the frequency of things. And I think these numbers are striking. Look at this, how many times does an average first grader include a drawing in their writing in 180-day school year? Hundred and forty-eight times. How many times do they choose their own writing topics? A hundred and twenty times. Started a new piece of writing, a hundred and nine; write independently, lots and lots of opportunities. I want all of you to self-reflect in your heads right now and ask our students in special ed classrooms with complex instructional needs getting these same opportunities. And so -- no, I'm -- I can honestly say that the answer is probably no, when we poll people around the country about their writing curriculum, we're still hearing some pretty traditional things. We are hearing that the writing curriculum for students with developmental disabilities is Handwriting Without Tears. Now, that's a program that's focused on fine motor skills. That is not a writing curriculum, but that's what they are calling the writing curriculum. We're seeing students and some students I'll share later who for their entire school year career, from when they were four until they had high school are working on their first and last name. I have to be honest, I had turned into a behavioral problem too. Like I would be going crazy if I had to work on my last name, year after year after year. We are copying and tracing, a lot of it is work on motor skills. And so we're going to talk about what good instruction should look like for these students. So another fun project was that we

collected nearly 500 writing samples from typically developing kindergarten first grade students. They were in these classrooms where the students got to self-select their topics and what the kind of writing they wanted to do. So it's really pure data developmentally. And we, my colleague, Kathleen and I, Kathleen in her first year as a doctoral student developed this text type diversity measure that I'll be sharing later. But here's the fascinating thing. Many of us think that fiction starts early, like, "Oh, they've read so many fictional books as a child, they can write fiction." Well, the kindergartener doesn't. They write labels, "This is my mom." They write opinions, "I love my mom." First graders switch it up. They write personal stories, "My mom and I went shopping." They write plans, "My dad and I want to go fishing," future tense. And they write descriptions, "My dad is handsome, he has brown hair and brown eyes and he's really nice." So that's -- what we found in our research was almost no first graders wrote fictional narratives. Only the most gifted writers in first grader wrote personal narratives and they were retellings of trade books like *The Wide-Mouthed Frog*. They were the longest writing samples. But isn't that fascinating? Lesson here, when we think about students with complex instructional needs, we should not be giving them prompts, like one day a monkey climbed through the window and -- like a fictional prompt is developmentally way too tricky, like we don't start with fiction and we can't assume they don't know any topics to write about or have things that they love and say, "Oh, we better give them a topic." Because we give them a topic and when we give students a topic, we're specifying text type. And they might need -- they might have needed the label. And so because that's where they were developmentally. So here is a beginning example of the text type diversity measure that you'll see later. We've got students who are emergent writers and we either classify them as emergent, meaning we're looking at it as a bunch of random letters on a page. And so we can't code them yet for text type. Notice -- now, you guys are under the Pennsylvania Core Standards. And in the Pennsylvania Core Standards, if you are considering text type, this might serve as a guide post because argument, informative and explanatory and narrative, line up with the Common Core State Standards. And if Pennsylvania has those same guidelines, then notice we've got the categories here. So, we can look at really early writing samples and figure out the types of text that they're attempting. And so notice we've got opinions and persuasion, descriptions, reports and procedures, personal narrative plans and stories and then poetry. More -- I will talk more about these measures in a little bit. So, one of the things that we've been finding, is that students with -- whether they're typically developing or have complex instructional needs, they all go through the same developmental stages. When we were developing our measurement system, we found that a student with developmental disabilities goes through the same linguistic changes developmentally just maybe they're 14 years old. And so since we're short on time and -- oh, it's not going to -- it didn't -- it didn't cooperate. So, upper left corner, this is a third grade student with cerebral palsy. So, bottom left, a twenty-three-year-old with moderate intellectual developmental disabilities and autism. So, pretty bird like they eat worms. Upper right, a kindergartener and guess what, she was able to tell us what she wrote. Guess what she wrote, "I like Liane because she is nice." Don't you see it now? So, by the way, I think in beginning, writers with complex instructional needs, we need to look at

their letter patterns. I've got a student with autism who is filling a screen with Hs and his parapro said, "Oh, he loves hungry horse." I have a five-year-old with cerebral palsy who they had on symbol writing software and we pulled them off and had them inventively spell and they'd fill the screen and all of the sudden, one day he put eight letters on the screen and he signed he was done. He's five years old. The first letter was the first letter of his name, the other seven letters were first initials of the other people in the room. If we would have kept him on symbol writing software, he would not have hit that milestone. I'm going to talk more about that in a couple of moments down in the bottom right corner. This is a thirteen-year-old with moderate intellectual developmental disabilities. "I have two dogs, they're names are Luke and Precious. They are my friends and I play with them." By the way, parapro, I worked with since, I think that's dialectal, they're and they, they are my friends and so -- well, Northern Michigan joke. So, maybe it's just for us, you guys laughed though. So, you know, when we look at students with complex instructional needs, we may make some assumptions like, "Well, they're not ready, they need to show me some prerequisite skills, they may not have letter name or letter sound or phonological awareness." I have a student, a twenty-three-year-old, who could write simple phrases like, "Eat milk." When she was talking about kittens and say things gosh, you couldn't detect rhyme pairs. Bit and hat, do they rhyme? It was like it was new everyday. And so we got to be really careful. We just need to get kids access to the alphabet and access to drawings, "i.e." photos so, they could do what everybody else does. And so you know, believing that we're seeing in our research of over a hundred and fifty subjects that conventional writing is possible, that teachers are floored that when we put software and good instruction in place, that students are beginning -- going from scribbling to writing sentences in a year and half, do all of them have those milestones? No. But all of them are making gains. You know, that belief that early writing should be conventional and my example about Olivia filling that page with random letters, it doesn't have to be conventional. They need -- I think students with complex instructional needs, instead of a few hundred or a thousand opportunities, they may need 4,000 opportunities. They don't need less they need more because their system requires that repetition for it to build in. You know, we don't want a -- assuming that we can teach writing through isolated tasks like work sheets. I had a teacher in a research project who was so well-intentioned, she said, "But that student doesn't need to be in your study, they can't even copy off the board." And I said, "Oh, that's not a prerequisite." Actually, guys you want to hear what my prerequisite is to participate with me in writing? Is that you have to be able to show a preference, but it doesn't have to be a consistent preference. That's pretty loose guideline, isn't it? Like they might be able to tell me a topic they want, it might take them a year and a half to do that. I'm very patient. The fun thing is that we had a kid -- a girl, a teenager, adolescent, 16, 17 years old who couldn't show a preference for a topic for a year and a half and another student, Tom, who wouldn't show a preference, and remember the first, we were just trialing all of these back then, I was developing it and the student clinician turned to me and said, "Dr. Sturm throw me a bone, I don't know what Tom wants today." And I said, "Let's go with the one he didn't throw on the floor. Tom, today your topic is pheasant because you did not throw that on the floor." And so, after a year and a half with

Solane, I'm saying "Solane, I like this. Show me what you like." Boy, she could nail it every time. It was like the light bulb switch. By the way it was Matt another kid in the room who one day said, "Solane, what do you want to write about?" And bang she did it -- she did it after that from then on. So, spoken communication is a need to do in writing, I've already talked about that one. Symbol writing leads to conventional writing. I realized I might not be widely popular with the statement, but we have no research evidence to show that students with complex instructional needs need to start with symbol writing. I believe in symbol communication, symbols as communication tools, but writing with symbols is not writing. And we need to get them access to the alphabet, to do what everybody else does or that cognitive leap will happen. We actually know from research on rebus. That rebus took away cognitively - - it allocated extra cognitive resources to focus on the visual image while also focusing on the text. And so, you actually potentially you're adding brain load. And they're not really seeing that that was writing because, "hey, I use this to communicate and now you say this is my writing." It could be confusing to kids, I would think. And so I absolutely never use symbol writing software. And then work on fine motor skills, I've already talked on this one. We actually don't have research evidence to say years of work on Handwriting Without Tears lead -- turns them into writers. You actually need to write in order to turn into a writer. And not that fine motor skills should be written off, they can be worked on in a different part of the day, but it shouldn't be their writing curriculum. And so the -- I'm going to through this one really quickly because I know we are -- have less time today, but when we have students who -- how many of you in your heads say, "I've got this student with cerebral palsy or I have this student with autism who can write like three sentences?" And isn't that good? We're like so proud of him. He's the star of the room. My challenge is that we accept that end product and just say he's the star of the room and let him do that again next time. All students need good instruction. We need that student who can write a sentence or a few sentences to also be pushed forward and not let them be static. And so, you know, I'll start with the green one actually. So, that's saying first draft writing projects maybe aren't sufficient, like could you go back and say more? That's what beginning first grade students, they need to -- their revision should involve saying more. And so not just accepting their first product as their end product, and letting them work on one piece more than one day instead of doing multiple really short pieces if you've got physical constraints. You know, that they're -- you're going to become a better writer if I give you this worksheet. You know, writing assignments that actually have zero correlation between worksheets and reading achievement. So, it makes good sense that if we do some context scriptwriting activities, it's not going to help us. Students with complex instructional needs, the belief that they need these writing prompts that I've talked about, like one day a monkey climbed through the window, and we're finding across the board even the Solanes and the Toms love picking their topic. Oh, by the way, students with autism, we find that they might want to even pick the same topic for over a year. Guys, I'm good with that. You want to write about combines or Baby Ruth candy bars or Mucinex for an entire school year? I'm good. Yeah, Mucinex is always a good one. Wheel macaroni? So -- and -- but I will tell you, I have a lot of educators, who are like, "But Janet, I can't stand it, I can't. I got to make them write something new." I'm like,

"Patience, patience." What I find is, it may take a month, it may take a year, it may take a year and a half, those students suddenly begin to pick a new topic every week, and over that year, they might have actually written different text types about combines. So, I let -- kids need to be in the driver seat when writing is hard. They need to write about what they love. They need to have topics that light them on fire especially when writing is so hard. So, I'm going to talk a little bit about what good instruction looks like. And I have been working on this for a long, long time. So, back when I was on faculty at Carolina and part of the Center for Literacy and Disability Studies, and worked with Karen Erickson and David Koppenhaver and Jim Cunningham and all that crew, you know, I researched, for years, I've been researching, like what does best practice look like? And so I used the Gen Ed Meta-Analysis as my point of departure, the Steve Graham's Writing Next document. I used the -- there's a new one that just came out. I used the What Works Clearinghouse. I used the Handbook of Writing Research. That is not research that was done on individuals with complex instructional needs. That's my point of departure though because when I was at Carolina, we talked a lot about how the in the head process for learning to read and write is the same for all human beings and so we need to have that assumption. So, good instruction is good instruction. So, while I'm in the process of conducting research showing the efficacy of what is called Enriched Writers' Workshop, it's scientifically derived. It's shown to be tried and true and best for typically developing kids. And I've adapted it for students with developmental disabilities. So, here is an example. Steve Graham had these baker's dozen. He said that strategy instruction when we help make the writing process more explicit and teach all kids to think like skilled learners, that's really helpful that you help them self-regulate like I did a good job with making comments today. I did a good job -- I wrote more today. That they work together, that there's work on spelling and handwriting by the way outside of the writing, joy of writing time. So, teaching text structure. This is what a narrative looks like. We've got characters, we've got setting, da, da, da, da. Product goals that they know what they're working on. Today, I'm going to write three sentences or today, I'm going to pick a new topic, that when students have their own goals then we can see bigger gains. Word processing. So, today, I won't be able to show you the First Author Software, we're going to have to imagine it in our heads because that was part of the technology drop-off situation. So, planning before you write, and remember I said drawing is the planting phase for the beginning writers and then some other pieces. And we know that assessment, when we can look at -- help share together with students about what they're doing and help them grow, that's also really beneficial. So, Steve Graham has done this work for elementary ed as well as secondary ed. We also have some preliminary evidence that good instruction works with students with complex instructional needs. And so here is the -- look at this one over here. All of them can improve writing quantity and quality, strategy instruction is the most frequent even with this group. You know, students with complex communication needs, if you give them good instruction, they improve. So, these are no -- like, I'm seeing these things already. Kristie Asaro-Saddler and her colleagues are doing some really cool stuff with students with high-functioning autism. And teaching them really sophisticated text structures through strategy instruction and getting some good results. So, I've already been talking about

a little about Enriched Writers' Workshop and starting to set the stage and you're probably saying yourself who is she talking about really? Are they -- is she talking about my kids? Because there's always, "Yeah, but not my kids." And I say, "Yeah, I really do mean -- I really do mean the group that you're working with." So, in Enriched Writers' Workshop, we utilized it with students with moderate intellectual developmental disabilities. I've done a little bit of work with students with severe multiple impairments. We've had -- in my research work, we had four classrooms of students with moderate cognitive impairments. The earlier research was another several classrooms. We had four classrooms of students with autism who recently participated in this work, and then students with complex communication needs, and we've had students with level 5 cerebral palsy, who've been -- it's been really fun. They've actually been piloting my curriculum since around 2005 out at the Bridge School in California. So, that's been pretty exciting. Starting in kindergarten with kids with severe cerebral palsy and they implement this everyday, everyday they write, which is my dream, is that every kid should write everyday. So, what do I know about these kids? Oh, I'm sure I'm speaking to the choir. There's a huge range in classrooms, isn't there? Holy moly, you've got the kid chewing on the pencil whose averting eye gaze, who can't use words spontaneously to communicate. They're in your room, and then we got the really verbal kid who could write you some paragraphs. And so that was part of my dream too is that we could do this differentiated instruction. Good instruction is good instruction, and we can multilevel it while we're -- while we're in play. So, look, they range from beginning communicators to sophisticated communicators, their writing profiles range from scribbling to coherent and cohesive paragraph level writing, and that crew may all be in the same room. So, let's take a look. Here is a student from one of my projects. He's eight or nine years of age and what's striking to me is he's a student with mild cognitive impairment. So, technically, one might think they could do more. I will tell you high-schoolers, with mild cognitive impairments can fill pages and pages and pages, and that might be dramatically above the skills of someone with a severe learning disability, when I look at that because some students with severe learning disabilities with normal IQ can maybe crank out a couple of painful sentences at best. So, what's striking to you? Is there a drawing? Can we identify the topic? Can we check together with the student about what they just wrote? Unless they could tell us, we wouldn't be able to do that so there's no joint attention. But -- so this shows us a little bit of the range. In one of my first studies five years ago, we had -- one of the research sites was -- involved 12 scribblers. One of them started with chewing on the pencil. We got some of -- really beautiful results out of that project. Everybody in the study began to show a preference for topics in the software program and they began to focus on word bank words and make choices and add inventive text into their writing samples. So, that was pretty exciting. All right. Here is another kid with -- individual with mild intellectual developmental disabilities with random letters. So, here is inventive spelling which is really typical. This student again was eight or nine year of age. So, we would typically see this around four and five, wouldn't we? So, same stages just a little later. Here is Sean, that 23-year old with autism, you saw his sample already. Pretty bird light blue, they eat worms. What's striking here is that he wasn't on a keyboard and the mechanical issues just jumped out. In fact, if

you look at his text closer, we can almost see the tremor in his writing. Writing is physically hard. It's hard for him to stay in the lines. And so I'm all about ease of access to the writing process so I think for kids -- any auties in the room? Not a one. All right. For those of you who know auties, we need to -- we need to draw them in. I need them to help me make prognostic statements about functional handwriting or handwriting being hard. Because if they've got language and ideas in their head that they can't execute because of fine motor constraints then we need IEPs that say access to a keyboard after -- I use to put how many words like after five words or 10 words, this kid will get put on a keyboard. Don't do it by like text type or worksheets or whatever, do it by how many words because we need it to be easy. Here is Nicole, the one who couldn't detect rhyme pairs. Look at this. You can see on the fourth -- she's writing about kittens, on the fourth line, she has to eat milk, fascinating. Oh, by the way, every time she would read an author's share, she would read it differently every time. And then, da da da da da, she was embellished. She always wanted to be the teacher. "I'll be the teacher. I've got this, Dr. Sturm." So funny. And you can see bad new kittens, bad new kittens. I think there's something about misbehaving down the bottom line. So, what's important here is that she is what we call -- you'll see in a few moments, the development of writing skill, a level eight writer, she's a phrase level writer, which is a typical stage in development for all beginning writers. Our next goal is for her to write sentences, which she does at the end of the day. So and here is a really strong student with moderate cognitive impairments. Don't worry, your eyes are squinting. I will read you some of this. What's important for you to see is this amount of text. She's writing a fictional narrative about this evil pair of shoes. He used Co:Writer while he did it. And the beautiful thing is in the end, the shoes became nice, and there was a good ending. So, by the way, this student started off almost a non-writer before we started doing the good instruction. So, that tells you a little bit about beginning writers, and my colleagues and I came up with a definition because a lot of people have assumptions about what beginning writer should look like, and so we said we really started with emergent like drawing, scribbling, writing letters and ending with conventional writing abilities. And what we're seeing is they're using written language to express communicative intent. A good example of that, I have a student with moderate intellectual developmental disabilities in this weekly classroom where I go implement this instruction with my grad students, and he takes letter tiles and he glues them in a collage to inventively spell. That's one of his ways he does it. I think -- I have his writing sample in a few moments. And this week, every time he glued on a new letter, he tapped his new clinician's arm and pointed to the letter. Or they get up in the author's chair and they're beaming. Students with autism, they're beaming, and the whole time you're reading they're writing, they're pointing to the paper, and then they look up at the lights, but -- caught in the lights. Then they come back down and they start pointing again but it's showing intent. This is what I wrote. This is something I share with people because writing is about sharing and communicating. So, I have a framework. I use national models, policies, research to guide our thinking. I think we need to have instruction that's informed and scientifically derived and based on your state guidelines or other states federal guidelines, the standards for -- and expectations for students. That leads us into this Enriched Writers' Workshop and in a little bit,

I'll be talking about the writing quantity and quality measures that feed in and inform instruction for us. Because if I have a student who's a level eight, they're a phrase level writer, I want to get them to a level nine. I want them to become a sentence-level writer. If they've only written labels, I might want them to write an opinion or a plan or some other text type. So, I've already mentioned that the Enriched Writers' Workshop aligns with scientifically derived practices and also evidence-based instructional practices. I've already given this one away earlier. I said, "Anybody who can choose a topic to share can participate in the Enriched Writers' Workshop, the ability to make clear choice is not a prerequisite." So, you know, it's pretty loose guideline. May take you a while, but I'm a firm believer, if you build it. We just are seeing amazing things happening. Every week, I still see cool things happening. So, what is Enriched Writers' Workshop? For those of you who are in gen ed settings, who are familiar with writers' workshop or writing process approaches derived by Lucy Calkins and Donald Graves and all of those folks, that's one of the practices that shown to be highly affective. And so I've utilized that model. You'll see that this instruction for students with complex instructional needs has many lessons. We have writing time and then we have an author's chair because writing is about social. Everybody is an author. The other day, I'll say, "Oh, leave them -- her alone. Don't interrupt the author." if a peer comes to bug them. I use a lot of words about them being writers and authors. I start every lesson, "Who in here is an author?" And everybody raised and if they don't raise their hand, we help them. "You are. Get your hand up." You should see five and six-year olds at the Bridge School. They are just like vibrating. They're so excited to get their arms up and show us. And so students own their writing. Students write for real reasons, you know. You write to communicate. You only finish pieces you want to. You only share pieces that you're really proud of. You don't have to go to the author's chair. Oh, by the way, you don't have -- oh, my kids' classrooms. It's hard for me to watch gen ed -- some gen ed teachers, my kids have had break the rules. Well, you can't go to author's chair and tell you've done significant editing and it's perfect. First graders don't put -- in first week of school, first graders don't put capitals in the middle of sentences. Ouch. Said that to my Olivia, the one who is like loving writing her whole life. I thought, "Ouch." So, by the way in the end, Olivia kept the capitals in on purpose just to bug her. She is my child. So I know. What are you going to do? You know, the nice thing about writers' workshop -- how many speech pathologists do I have in the room? Next to none. All Right. A few, a handful, a handful. You know, we are often working on social pragmatic skills and we're conjuring up these environments that are artificial. The nice thing about good writing instruction is that these kids want to use good social skills. I have -- half of my lessons are about how to be a better communicator. I have -- I have one of the students that I worked with autism used to be in this little, shiny, royal blue sensory suit and it was like a banana. Any of you seen those? And he would -- when he would want to take a turn, he would unzip himself and open up. And he had achieved talking, he could make a comment to the author and then he would zip back in. And so -- I know. So now this kid, when he's in the author's chair, he's the one who's pointing to his writing while we're reading it and grinning. And you know what else he does, the moment he hits the big mac switch that says any questions or comments, he lifts his eyes and he scans the room. Guys, they do it because

they want to. They do it. They'll glue themselves together to get to that author's chair. It is a real, amazing reducer of challenging behaviors to have this respectful environment that challenges them. And we are seeing teachers across -- oh, 15 to 20 teachers who are now saying that they're seeing their challenging behaviors plummet with the implementation of this instruction that kids are able to go to school for a full day for the first time a child -- an individual who's too violent. And they are attributing it to the fact that they're now able to communicate better in orally and in writing. So -- and then the last piece is that whole strategy instruction that I talked about, so everyone of my mini lessons is about like saying more or writing plans or rules for author's chair. And then there's a strategy tip sheet that goes with it and I'm going to show you one in just a couple moments. So I want to make -- how many of you have been in a college class, like you pick your class, chemistry, statistics. And you like totally got it, like, you're with a really good professor, you got it. And then you got back to your apartment, you're like, "Whoa, that's gone." Whoops, I was holding on to that by a thread. So what we know is that kids with challenges learning need that scaffold when they get -- when they leave the lesson and hence the strategy tip sheets that we can refer to over and over again. "Oh, you want to write a plan today? We just talked about plans or we talked about plans last week and this week, you're ready. Let's get our tip sheet out." And so the tip sheet guides their thinking. So every enriched writers' workshop has about a five minute mini lesson. I joked at a grad student who was trying to be so careful. They're so nervous the first time they do classroom instruction. And she thought if she went slowly, it would help them understand. And so we had -- we had two kids who left the room screaming. So I was, "The rule is, is your lesson should be short enough so that nobody has to leave the room screaming." So you got to learn to read your crowd and some days, it needs to be a two minute lesson. And get the gist across and then we get the writing. So I teased her, "Mike, you helped us create a rule." And when I first started doing this, you guys, I was -- I had studied it for years and I got in this high school classroom. The teacher of 30-years said, "Have at it, Janet." And we went from three kids eventually up to fifteen. Ten of which couldn't use words spontaneously to communicate. All of them were prone to violence. So it was my first test classroom. And I would do these lessons that were too long, you guys. And Matt, the really -- he was really smart and he'd be like, "Dr. Sturm, that mini lesson was not so mini." I was like, "Okay. Message heard." So I'm really talking mini here. And then we move in to independent writing and we scaffold them in different ways so that everybody can write and I'll talk about that in a little bit and we have this author's chair that's gilded or decorated. That first high school classroom, it was a leather recliner, a brown leather recliner. And the fun thing was Tom was on the other side of the room. Nobody had expectations for Tom to write. Initially, he had a head injury and autism and he was agitated. His first day over there, he was like, "PG 13, PG 13, PG 13." And he was the one who, "Throw me a bone, Dr. Sturm." What does he want? "You were going with pheasant." Well, we handed Tom a pencil about two months in and he had picked four balls and he wrote, B-A-S-K, turned to his clinician and went like this and she said, "Do you need help spelling basketball?" And Kelly and I had tears streaming down. Like, nobody knew. Tom began writing back and forth on a computer to his dad. So here's the -- I know. So, here's the crazy thing, we do this

wonderful celebration, come meet the author and by the time we got to the spring, we invite the school board, we invite everybody who would love to come celebrate these authors and we do tri-fold posters and certificates. And anyway, Tom who was so nervous on day one gets into the recliner, whips it. Because you should always share your writing while reclined. And so anyway that was pretty fun. So we do author's chair. Some classrooms if they're writing everyday, do it once a week on like Friday. I do it all on the same day in the classrooms I go in because I go once a week. And so every lesson has the same framework and I'll show you my framework in a moment. We have an introduction on purpose. We do modeling and guided practice. That's effective instruction, like, we'd role play. My clinicians sometimes have to get ready to be actresses. "All Right. You're going to be the author and you're going to be the one making bad eye contact." Like -- and then, the students have to vote on a rating scale. "Was that good eye contact or bad eye contact? What do you think?" And then everybody's participating because everybody votes. We have smiley scales, we have all kinds of things. And so -- and then sometimes we have group conferences. So if our lesson was about brainstorming new topics, maybe everybody goes and in some way indicates a new topic and they either write it themselves and share it with the group or somebody records it for them. And that's exciting because everybody gets to contribute a new topic. So here's a mini lesson. This one's called Say More. Imagine this on a single sheet of paper. And we start off again, "Who in here is an author?" Blue is always my action item. So the teachers who've used this says piece of cake, they can pick up a lesson, scan it, and go. And so the purpose of today's lesson is to talk about saying more in our writing. When we say more, it means we're writing more letters, words, and sentences in our writing. We're making our writing longer when we say more. So then how many of you like to fill the page with text? Notice I'm not saying you have to have sentences. By the way, I never call writing a story because story is narrative. I'm specifying genre when I say, "Oh, show me your story." And so then we -- sometimes, we don't write very much at all, you know, we really wish the author would say more. And so I had a student who had a picture of herself and her brother, this huge college football player. And we're in, all she wrote was football. And we said, "Did she write enough?" And by the way, students with complex instructional needs do not like to give negative opinions. They're so nice. I'd be like, "Darla writes too short." I'd be piping it in behind. I'm running behind going, "Darla writes not good. It needs more words." Like it's so -- anyway, nobody wants to out this -- you know. And so we do and then say, "Well, what else do we want to know?" Who do you think this guy is? Well, is it your boyfriend, is it this, is this that? Oh, it's her brother. How cool is that?" And so how could we say more? This is my brother and me. And we've modeled the label and we've said more. And so the lessons are about this modeling and guided practice and getting them to join in to help us co-construct. Students who can't use words spontaneously, we help them choose the photo to work with that day. "Which one should we write about?" And everybody places a vote. Or we have different ways to draw everybody in. And so this is the gist of the lesson, you know. Post the photo on the writing area, offer ideas, students can choose if they struggle. And then we model it. We can do it on a smart board now because we got all the fancy technology. We started with chart paper years ago and now we're fancy. And here's what a strategy tip

sheet looks like. This is one example of a strategy tip sheet. What else can I say? What else do others want to hear? Think of two to three more ideas. Now the stronger students in the room can really put this into play. The other students in the room, it's about them orienting their attention. It's about them showing a preference maybe for the topic we're going to write. Everybody is there for a reason. There's a valid reason for each of them to be there to contribute in a meaningful way, I can find it. And I always want to know in every moment of instruction, why is that student there? And I have sets and sets and sets of goals. So we can see in the mini lesson an example instructional goals, build self concept, confidence and intrinsic motivation. We want them to contribute to the mini lesson. I want that for every student. So how am I going to make that happen? I might need AAC tools in there. And I do. Example of targeted student skills, so with that -- start to narrow it down and prove attitude and perception of self as a writer, we want them to raise their hand to contribute. We've got students after four years who are finally starting to raise their hand to initiate. They want to make a comment. Oh, by the way, I use a talking stick and whoever has the floor, the magic of the talking stick, I did it because when we went up to 15 students, I was like, "Holy Molly, how are we going to manage all these kids who have struggling pragmatic skills and social skills?" And the amazing thing was that the talking stick, all ten of the kids who couldn't use words spontaneously to communicate, as soon as we introduced the talking stick, they all started to initiate. So that wasn't the intent and that's the magic of what happened. And then they knew we would swoop in with an AAC device for them to participate. So they knew we were going to set them up with a safety net. Oh, by the way, back to [inaudible] remember, she couldn't show a preference for a year and a half, one of our goals was for her to make an on topic comment. And for a long period of time, she would raise her hand and then she'd be like, "I need my thing." And we'd come in with the device, like we'd wait, we'd hold out. Well, guess what, her first language to an author was an on topic question, the author said -- wrote something about horses and she said, "Where is your horse barn?" We not -- we didn't really fell over. By the way, she still hadn't shown a preference for a topic. So I know these kids are all there for different reasons. And we can help them make gains. So participate in choosing a group writing topic, provide content relating to the lesson and then I have, how do we scaffold it? And by the way, I published this in [inaudible] workshop in a -- in an article by -- in the journal topics and language disorders in December of 2012. And so a lot of this stuff, these tables are in there and the tip sheets and actually individual tip sheets showing how I set individual goals for a student with autism. And so here is independent writing. Sometimes I have -- ideally, I have kids on, first off, their software that I'll share in a little bit, but when we do it in the no tech way, this is a student who, by the way, chose school buses for a very long time. He loves watches, he actually suits -- he was in a blue suit. When he gets stressed now, he and I are bonded and he taps my watch. So he'll make a comment and then I'll swing by and he'll just give it a couple taps and he's good. So he likes watches. So he chose a new topic that day and we celebrated. He -- we have him -- give him a pencil and let him scribble. And then we introduced a no tech laminated alphabet board and I say, "Show me the letters you want to share in your writing today. Show me your letters." And we record everything they point to. Oh, back in the day though, we'd have

he and the teacher on a bouncy ball doing it with the alphabet board in front. That was back in the day. We may have to go to the sensory corner for breaks or go to the gym to shoot basketballs in between writing bits. So all of the kids can stay in the room the whole time now and are productive. And then we sometimes offer single word choices on a dry raise board in a no tech way. And we'll say, "Oh, you chose watch." And we offer choices and they point or they erase it and we know that's their choice. And we record it for them. When they get to author's chair -- oh, and here's a topic board, here's a way, one way we have students contribute, for example, brainstorming a topic lesson, everybody has one of these in front of them. Everybody can be successful in contributing to the lesson. But they might use this to help choose their topic and then we have -- oh, here's their original author's chair. Isn't it a beauty? And here's when we did in a one on one session. Look, it's got Christmas lights. You could never guild out a chair enough. You can never sell it. Oh, we used to wear a sombrero. There was a five year old with high functioning suspected autism and he would wear the sombrero. And one -- when we would get that student who wrote the watches writing to the author's chair, we'd say, "Oh, look. He chose a new topic today. Wristwatch is a new topic. And look at his scribbles." Sometimes, we would say, "Those scribbles almost look like cursive writing, everybody." And their peers are looking up. It validates them. And we say, "Look at all the letters he picked today. This was the student who did the AHH on the computer." And we said, "I think he chose all those Hs because he loves Hungry Horse." And so we celebrate everything they do on that page out loud in front of the group. And then we hand them the big bag switch and he says, "Any questions or comments?" And then the peers can come in and ask questions and make comments. We have a praise communication device that allows them to say, "Awesome, cool, rocking, sweet, I liked your words, I liked your picture." And that's really fun for them. So I'm watching my time here, how am I doing?

WOMAN: You're good.

DR. JANET STURM: I'm good?

WOMAN: You're good.

DR. JANET STURM: All right. So, you know, you're saying, "But how do I do it? These kids are really tough." Like how do you juggle that to set up 12 kids with pretty significant challenges to write at the same time? And so again, you either have a computer lab where you can go put them on software or we have, like I said, laminated alphabet boards, we have some kids who can write with paper and pencil and be legible and productive and write easily. And so here's what we do, every author has a tool kit and it's sectioned off and those are the sections. We've got in the beginning of this one, you could see like that one kid who does the letter collages, his letters are in a pouch, a zipper pouch at the beginning. By the way, we tagged -- we -- they decorate their author's tool kits, that's the whole lesson. And it celebrates things they love. It has their photo on the front. Every year we go take a new headshot of them in the library standing in front of books. And it's this beautiful headshot. And we put that on their author's tool kit. And say, "Oh, you're an author. You need a new..." Because we use it later for their biography. And

so lesson tip sheets, you saw one tip sheet. Any of their communication boards, I have no tech versions of the things that I've mentioned. When we're doing it in a no tech way, we have internet images, magazine images all printed out for that student, things they love and we build that over time. We're like, "Oh, I know this student likes iCarly." And they like Hannah Montana and they like Michael Jackson and they like My Little Pony. And so I had a lot of pop culture things in there. If I can get photos from home, that's the biggest win. And then we also have teachers acting like the paparazzi for all school events like bowling or field trips. Oh, in that same Northern Michigan, you guys, they take students with complex and structural needs snowmobiling, just seems a little dangerous. But students with autism on snowmobiles so as a school event. And so they take lots of photos. And we have binders just for the photos. And they can go shop those photos. And it contains all the writing they've done. And it's fun because we can flip through and I can say to one student, Dallas, I'm like, "Dallas, look at you four years ago." He was like doing random, but now he's writing paragraphs. And that's really fun. Oh, yeah, and you can see some of them contain schedule boards because that helps them. I have one student with autism who needs to know, he writes and then he can get on the internet for five minutes and then he writes then he's back on the internet and then he goes to author's chair. And that just helps him stay calm. So we do lots of accommodating. Individual tip sheets, as I mentioned, this is one of the things that, say, in a supplemental digital content in article that I wrote. And each student has an individual tip sheet. I have goals for mini lessons goals for writing, goals for transitioning the author's chair goals for each student and then in beneath the goals, I kind of have maybe what every adult should do. Like, here's how you should help them show preference for a photo. We do a picture walk. And here's how you do a picture walk. So there's a little script and really for 15 kids, you're not creating 15 of them, you're doing save as because five of them look -- have similar profiles. And we can pick goals pretty quickly. And so we do a lot of verbal and physical cues, we help them get to things in their author's tool kit. We help them surf through their photos, we help them -- communication boards is so interesting when I have a new clinical team, I'm, like, "All right, your job is to very quietly walk behind students and entice them to raise their hand to make a comment if they're not initiators yet." And so, hey [inaudible] that's all it takes and then it's up. And so we encourage their active participation through lots of little verbal cues behind the scenes. These are some ways that we accommodate for communication, yes, no responses. Who thinks we should [inaudible] who thinks we need to say more? You know, we ask a lot of things. We have two to four item choices, digitized microswitches. We build in kid's AAC systems if they have more sophisticated systems. Oh, and the microphone. These kids are notoriously like mumblers in the author's chair and we have some kids -- we have one student who used to, when he first started almost, he would be in meltdown mode. He'd have to be gently carried to the author's chair. He had autism. And now, he gets up there and he gets his microphone on in fact. He falls apart if the microphone is not there. My clinicians forgot one day and all hell broke loose. They will never forget again after four people carried him out. But he -- so when -- I really am talking for those of you who work with kids with really complex needs, I'm talking about the folks you work with. I mean, these are some really challenging kids. And so,

by the way, he gets up in the chair now and he goes, "Attention, attention everyone, listen. Today my topic is about -- oh," and he has all these pop culture things he writes about and he's now able to actually ask some questions and make some comments after four years. It's pretty striking. So how do we adapt when they get into independent writing? Lots of ways. These are some examples of ways but alphabet boards and letter tiles, because remember, what I consider an essential accommodation for all of these kids is ease of access to drawings, i.e. photo images. Ease of access to producing text, so if it needs to be on a keyboard or an alphabet board or letter tiles, then that's what we need. And then we get in -- and if they have trouble with spelling and fine motor constraints, we need to look at word banks and word predictions. So those are what I call essential accommodations for everybody in the room. I look at every kid and say, "Can they do that? Can they get a photo image or do they -- what photo images do we need that are, like -- that will light them on fire?" And then what ways can we help them write and so we do all different types and then some of the things at the bottom like alternative pencils out of the Center for Literacy and Disability Studies get into what we call specialized accommodations. And so for some kids, we put in those specialized accommodations for severe physical or sensory needs. So that's Enriched Writers' Workshop. I'll briefly tell you, we're getting--I'm getting ready to publish it with Don Johnston Incorporated. So in the next couple of months, so all of the lessons and things I'm talking about. So -- but you know what? You could take it home today and start -- I've had teachers in the Detroit area -- I've probably trained about a thousand or plus teachers in the Detroit area and they've done a workshop and gone home and said, "I just winged it." And I couldn't believe what happened if we build this environment where it's social and they pick their topics and they write and we share, that's the essence of it, you know, go buy everybody a half-inch white binder and they decorate it and pick out a chair and you're good to go, okay? Oh, the author's tool kit it is the student's, they own it. They were so proud. I remember we were like rock stars. We brought them these white three-ring binders, plain, and they were, like, "Oh, my gosh." And my grad students were, like, "Wow." They were so excited about these three-ringed binders. I said, "I know." It's kind of fun. And so, you know, so there's a little bit about how I provide good instruction. And now, I want to talk about measurement. And what we saw when in these classrooms, from the very first high school classroom and my first research, my research has been funded by the National Institute of Health to create the First Author writing software and one of the things we saw was that I knew these kids have made progress. And then I looked at the measures that were out there and I was, like, "Okay. This is not showing that progress." We got a problem because NIH doesn't like it if you don't show them results and so, fortunately, they gave me more rounds of funding especially when I showed them that I -- my colleagues and I developed the measures. And we built them into the software. So there was no measure. If you guys know or are familiar with, like, Elizabeth Sulzby, one of the originators of Emergent Literacy, if you look at her early scale, it's really spelling-based. It's not linguistic growth. A student who writes three really well-spelled words will score higher than a kid who writes a poorly spelled paragraph. And that's not what I want to reward and so here we go. We got lots of challenges with existing measures and you guys are living it probably because you're being held

accountable, you need scientifically derived measures to show progress and the school -- some of the in-school or state level tools are not sophisticated enough. So, you know, as much as a gift Elizabeth Sulzby's work and groundbreaking, we found it missed stages like it focused on certain things but not others. It was, like, "Whoa, it missed three stages that happened with kids." So like I said, we wanted one that was comprehensive. It wasn't sensitive. Measures weren't sensitive. A good example is end of grade test. The kid who scores a one their entire school career, they never look like they got any better when they probably did between third grade and twelfth grade. But it assesses only a specific construct like spelling or fine motor or mechanics, assesses vague apps and/or unrelated traits. I've seen kindergarten rubrics where it will have, like, has neat handwriting, chooses words, all these, like, strange things that don't go together. And I also don't know how they landed there developmentally. I had a tool I looked at last week that said purposeful motor movement. I was, like, "Wonder if we could all be reliable with that?" If you and I could agree on what purposeful -- because we got no OT's in the room so we're on our own guys. So we've got to be really careful with the measures that are out there. Curriculum-based measures give information that's curriculum-based but what we're finding in the literature and from teachers is that curriculum-based measures don't help us inform instruction. So we knew that our measures that we develop needed to help and form instruction and, you know, how many of you have been working with writing tests that have time constraints? Yeah, not fair to students with complex instructional needs, that they're not going to show you their optimal performance if you set a time limit. And then text site specific, any of you who used the test of written language? It's a standardized written language test and if -- for those of you who are familiar with it, it has, like, a black line drawing of a man on the moon with -- how many of you know? What's the squirrely stuff behind it? There's, like, some made up stuff. There's, like -- oh, I'm going to make it up. There's, like, a spaceman on the moon but with, like, a toaster behind him. Okay. And an Easter bunny. I'm not -- it's not really what's on it but the bottom line is it's soliciting a fictional narrative. Youch. So we've got to be really careful when certain tools are looking at specific text types that might be outside the realm of that student's capability. And then it's not informing us of anything. So we wanted measures that would help do what Lucy Calkins, our writers' workshop person said, "We want measures that show visible progress along the way to help track the success of teaching." So here are our goals. We wanted measures that would show small differences. We wanted measures that would be easy, that if they can't, we know educators and we are all under such huge time constraints. And so you got to be able to have -- it'd be quick and fast. We wanted it to guide instruction. We wanted the measures to serve as outcome measures over time so we could say, "Hey, they started out at a level seven on the scale. Well, by the end of the year, they were a level 11." And we could have IEP goals to that effect. And then my last favorite one is that we celebrate their authorship. So I've already mentioned my meet the author event with the recliner and so we do outcome booklets for the families and we have families who tell us that their kids look at those outcome booklets every night. It's got all of their tables in there of their data and their change and we record special moments every week for every student and then their writing's in there. And so it's a way to

celebrate their authorship as well. So we needed -- the EC says we need multiple reliable measures and so that was our goal. So here we go, I'm going to show you the list. We use total intelligible words. Speech pathologists know this one, that we count the total number of words. It's about verbal fluency but it's also about their spelling development. It's -- I could -- I had a student who -- her first day, she wrote a real word. She picked a picture of a puppy and she wrote P-O-P-E-Y. And you and I would all agree that she was writing puppy. That's an intelligible word. So it doesn't have to be to conventionally spelled. It just have -- has to be one we can identify. And then vocabulary diversity is shown by looking at all of those intelligible words and saying, "How many different ones were there?" And we can look at growth there especially when we use word bank and word prediction software, it's kind of fun to start to look at where they're headed with that. Total number of letters, I only use with really emergent writers, I'll show you that in a couple of moments. Remember The Hungry Horse and the student -- the five-year-old who wrote the initials of people in the room. Topic diversity is a fun one especially if you've got a student who's writing about wheel macaroni for an entire year or Baby Ruth candy bars for an entire year and then they start switching up topics or to show a parent, "Look, yours -- your child was good at picking a new topic every week this year." We wrote this many times and they chose this many different topics. It's a thing to celebrate. Developmental writing scale, this is our anchor measure. This is the one I hope you guys will really love and learn to use in your work. And we want to identify the overall developmental writing level of the beginning writer. And then I already showed you the text types, the example of that, and I'm going to show you the measure. So what we have is emergent beginning writers, these -- of all those measures I just showed you on those tables, if I've got someone who's got random letters on a page or scribbling random letters on a page, these are the measures I would use. The students who look like this -- and I'll come back to it, look like this. Notice I don't have text type here because we can't measure text type until they have a really rocking first word like P-O-P-E-Y. That's the first day that student not only hit a level five on my developmental writing skill by writing a real word, she was able to be measured on the text type diversity measure because she wrote a label. She was directly labeling the picture. That's two milestones, one day. What a special moment to send home in a note to parents. So here's a student who looks like that. Here's that gentleman who does his letter collages and he kept -- remember this week, he kept gluing, he had a brand new clinician, he would tap your shoulder and point. He's, like, "Can I just put on here?" So, very motivating for them and when we get up, we read it with, "Oh, my gosh, look at all the letters he chose today. Go, Jay. Oh, it's upside down. L-O-B-C-Q-A-H-S-N-S-Q-E-R." By the way, if they write about Baby Ruth candy bars for an entire year, I read with enthusiasm. "Baby Ruth, Baby Ruth, Baby Ruth, Baby Ruth, Baby Ruth, Baby Ruth," because they might write the same thing every week so you better read it with enthusiasm. And draw the audience in. And so we read lots of letters with enthusiasm, too, because it's a thing to celebrate. So, when we have conventional beginning writers, here's what we look at. We look at the developmental writing skill which I'm going to show you in a moment. Topic diversity. By the way, we could look at topic diversity with those last ones when we use photo images. So, the really emergent writers when we use photo images,

we can look at topic. Total unique words, genre and text type diversity and total intelligible words. So, let me show you the developmental writing skill. This is our anchor measure. And I'll show you some examples of it. So, level one is really that, like, three and four-year old, isn't it? So, you've got drawing and scribbling. Level three, if I have a student with complex instructional needs who's scribbling and I put them on a keyboard and they start putting random letters on the screen, I have accommodated for their fine motor constraints and I automatically bump them to a level three on the scale. That's pretty cool. I've taken them from a two to a three just by putting them on a keyboard. And then, by the way, instructionally, I do things, like, "Oh, you know, authors use spaces." And I model it outside. And I had one student who was a bit of a pill behaviorally and would be cantankerous. And one day, I kept incidentally -- didn't like -- he would -- he -- kids always like me and he would say, "Go away." It's, like, "Whoa, we're good now." After two years, we're now good. But I was, like, "Whoa, nobody ever says that to me in a classroom," because -- so, anyway, he would let me come in a model. Well, I'll be darned if he didn't do random letters and then space because, "Hey, I did another space." And then he finished for the day and he print it, he goes, "I need to get to author's chair," because he had random letters with spaces. So, that's how we instructionally get them to a level four. Level five is that first recognizable world like puppy. Level six and seven, they're starting to use some single worlds. By the way, they can be written vertically, horizontally, I don't care about mechanics. This measure was designed to be used with any text type. So, it's not genre specific. It don't have -- you can collect natural artifacts from the classroom. Just saying you can write about anything you want, go for it. And ideally, that would be baseline. Then you start with some photos and you layer it on and then you see it take off. So, you can keep measuring. So, level eight, remember Nicole doing the eat milk, that puts her at level eight. That's phrases, partially formed sentence. Level eight. Level nine, one to two complete sentences. That's the magical. Oh, the gentleman who wrote B-A-S-K, Tom, who had autism and a head injury, a month later, he wrote four or five descriptive words about a bicycle, a track bicycle and at the bottom he wrote, "I like bike." We nearly fell over. He moved himself from a, "I can barely make a choice for a topic," to a sentence level writer in just a couple of months going once a week. Striking. Level 10 is -- every sentence is a new topic. Easter eggs are fun to hunt for. "My dog's name is Muffin. My dad is an engineer." So every sentence is a new topic. We don't think that that's that common. This is Anchor by the way. I'm typically developing children as well; typically developing kindergarten and first grade students. Level 11 is fun. It's a milestone. They're starting to write all on one topic, but you can put those sentences in every -- any order. It's coherent, but it's not cohesive. Level 12 is their first paragraph or a few sentences that are coherent and cohesive. Level thirteen takes it up to two. Level fourteen takes it up to three. By the way, mechanically, the author does not need to use punctuation. The author does not need to use capitals. The author does not need to mark paragraphs. We are paying attention to the linguistics of it only, the language. We ignore it. We look for where there should've been punctuation to count sentences. We look for chunks that hang together to show a cohesive and coherent section. They may or may not have marked it off, but we give them credit for what they accomplished. Level 14, we anchored on a typically

developing first grade student. I'm a boastful mom, my -- one of my twins. I have seven-year-old twins and a ten-year-old. One of my twins, Gabriela, we were looking for the first grader who could do it and Gabriela came home with this wonderful personal recount of our trip to Chicago and it was like a 14 on steroids. It was the end of first grade. So -- and she's not gifted. She's a really -- she's one of the top readers in her second grade class, but, you know, pretty cool. So is a first grader capable of writing multiple cohesive and coherent paragraphs? Yes, they are. It's a really strong first grader though. I do wonder if second and third graders plateau in a level 13 or 14; that's going to be more research for us. We want to look at the average range for the kindergartener, the average range for the first grader and keep going up. So I think this is fun because if you work in Gen Ed settings, you can use this with students with learning disabilities. You can use this with Gen Ed kids. You can use this with students with complex instructional needs. So this is our Anchor measure. It helps us make decisions. You could see how it's instructionally relevant. Like, "Oh, they're writing phrases. I want them to write sentences." We have, oh, a lot of students; I know I'm not supposed to walk in front of this thing; who are caught in a level 11. So I have a student right now who writes -- he writes tons, fills the page. He's so proud. "Firemen are brave. I like firemen. Firemen put out fires. Firemen," and so how do I -- I'm actually beginning to create lessons now about how I teach him logical connectors in each type of text. And so as soon as he uses because, it makes the sentences not reorderable. "I like firemen because they are brave. I like," and so we start to teach him devices. I'm like pushing him into a 12. Or a student with autism who -- it's random sentences on a page, and I actually had him -- we would -- he would talk out loud and I would map it into categories and then he would write; everything about JFK, everything about the history of CMU, everything about Bob Barker. And we would map it because I needed him to move from an 11 to a 12. So here is an example of a few -- of I -- these are -- I also published an article on the development of writing skill in that same special issue. It's a whole special issue on writing for students with developmental disabilities in topics and language disorders in December of 2012. And the developmental writing scale is in there as are these Anchors for every single level to show you examples. So here's a level two scribbling. Here's that level four where they're doing random letters with spaces. Level nine, the first sentence, they sing and dance. So this was his second week. This is Dakota. This was his second week in Enriched Writers Workshop. The first week, he wrote a level eight; second week, he wrote a level nine. He went up to a level 12 writer, wrote new topics every week and wrote, I think, seven different genres or text types before I even did any text type lessons. Crazy. He was -- that was a year and a half in and he'd written seven or eight different text types. Here's a level 11. Notice how these can go in any order. Look at the first grader. "Frogs are grow -- are eggs. Frogs are cool. I know how a frog grows egg then grow more." So these could go in any order. Our goal would be to move this writer into someone where we can't reorder the sentences. Like in a story, you might use devices like then, da, da, da, da. As soon as you say then, it's a temporal marker and you can't reorder it. And so, like I said, I have all those lessons scoped out in my head, but you can already think about how you could run with it. Text type diversity measure. You guys saw this earlier when I showed you the different text types of

kindergarten and first grade students. And so here it is based on core standards. And then we have definitions. And we wanted them to be -- by the way, developmental writing skill looked pretty easy, didn't it? Hopefully you went, "I could do that." Well, same thing here. And my colleague, Kathleen Kelly was brilliant. She's a theoretician and she had this elaborate flow chart that made my head hurt to score a sample. And I was like, "You know, Kathleen, nobody can use this, but you." So I joked at my gift to the text type diversity measures to make it usable. And so fun thing is that you -- we have this, like, little checklist you can ask yourself and you can narrow down the genre quickly. Is it in the past tense? If it's in the past tense, it's either a personal story or a fictional story. If it's in the future tense, you got a plan. If it is all about that kid's cat, it's a specific topic, it's a description. If it's all about cats, it's a report. If it's got opinion words like, I like or I love, then it's an opinion. If they use the word because, it's an emerging early movement into persuasion. So it's, hopefully, that easy. So we wanted you to be able to look at really beginning writing samples and classify them into one of these text types. So let's take a look. Here's a personal story. "One day, my friend came over to my house. We played. We had fun. She left. She went home. I cleaned up my mess." Personal story. Remember that was the -- one of the most common things first graders do. Opinion. "I do not like school. I am glad we got five more days in school. Only I like part of the school." North Carolina, guys, funny story. Kathleen, you know, she's used to score end of grade tests. In North Carolina one year, all of their test scores plummeted. Guess what the prompt was? Tell about a fun time you had in school. Ouch. So bad prompt. So -- all right. That woke you up for a moment. It's something though, isn't it? And it's sad. So here's Tom. Here he is with that sample. And if we were to practice, I already told you where he was. Here's that developmental writing scale in the Reader's Digest version. So there it is, drawing, scribbling. Where is Tom on this scale? Read that last line.

AUDIENCE MEMBER: Nine.

DR. JANET STURM: He's a nine. "I like bike." And I already told you that one. So I jumped the gun on that one. Total words, eight. Unique words, seven, because bike occurs twice. Topic, bike. And then which text type do we have here?

AUDIENCE: [inaudible]

DR. JANET STURM: Uh-hmm. Oh. Label. "I like bike." Oh. It could've been or description. See, he was mostly labeling. What's he -- how many words do we have for label? One, two, three, four, five. That's why. This is a good example. All right. If they write more than one text type, you have to count the words. And the one with the most words wins. If he wouldn't have written so many descriptive words, darn it, that label it? We would've put him down for an opinion. If he would've just written, "I like bike." All right. So our goal for writing accommodations is that we, you know, we don't want to spend a lot of time accommodating for drawing. So get them photo images. That's the lesson. And get them to start writing. We want them to use orthography, use letters and move up the scale. And so I mentioned these earlier so I don't need to spend a lot of time, but the essential accommodations are access to a drawing,

access to the alphabet, and potentially access to word banks or word prediction software, specialized accommodations for kids with more motor and sensory needs. I'm really bummed, you guys, that I don't get to show you First Author Software. First Author Software was on my laptop that wouldn't turn on. And First Author Software I worked on with my colleagues starting with Jim Cunningham, and Karen Erickson, and all my colleagues at Carolina. And we dreamed of if there was a beginning writer software tool that provided ease of access to planning, composing, and sharing, what would it look like? And we wanted the interface to be ageless. So it's useful for a five-year-old or a twenty-five-year old. We -- and so imagine with me this planning screen where kids can have photo images displayed from their life, their school, their world, their world folder has like pop culture images and things they might be studying like volcanoes. And First Author, our goal there too was to be super easy to use. Like the photo images would fly in. So you can literally type in a topic like puppies and puppy images will fly in. And then the kid can pick the puppy image they want and it auto loads content vocabulary for that topic. And if you don't like a couple of the words or they want different ones, you do ctrl click and you just type over it. You can do that in the planning screen or in the composing screen. So it's this word bank and we wanted to -- so there's this planning screen. They pick their photo all by themselves. Jenae Pritula in the Detroit area, she implemented First Author with 35 students who were physical, otherwise, health impaired. She said in her 24 years of teaching, and she helped set the Michigan Standards and stuff, she's an amazing teacher, said, "I couldn't do writing instruction with my crew." Now, with the First Author Software she's kind of worked herself out of a job. She's says like, "Go in and they write. They help each other with words." "Hey I need a word." They do shout-outs. So, anyway, First Author allowed these kids to have ease of access to photos. They sit by themselves. They pick their photo. It scrolls them to this composing screen that has the word banks, word banks on the bottom of the screen that help them with content. But then I wanted scientifically derived word banks. For those of you who've worked with word bank software, it's a little daunting. It's like, "What size grid do I want? Which words are just right?" And so we looked at those kindergarten and first grade examples and analyzed them to death. And we looked at the most frequent two word combinations used by kindergarten and first grade students to compose the most frequent text types. How nerdy is that? We had fun. And so think about it. I like opinion words. I want plan words. And so the top half in First Author in the composing screen is structure words that help set kids up to write the most common genre. So if you did many lessons on writing a plan, you could then show how they had words right there and just get started doing it. "I like puppies." And they could write it. And then you click on the composing that -- you go to the sharing screen and it slides it over and it publishes it in a book. Or you can have it be first grade lined paper. And so these kids have this publishable work and I'll show you that in a moment. And then the last thing about First Author, the really rich part, the measures I have been showing -- I showed you are all in First Author. And you can actually graph your kids overtime. Like it pulls up the writing sample on this progress monitoring screen and you as the teacher can say, "Oh. That's a level nine. That's a--an opinion." It already counts the total number of words and unique words for you. It enters in topic for you and you can crunch numbers and

you can get graphs or tables. And Jenae uses them in our IEP meetings and she helps out Michigan Standards. She goes I've worked off Michigan Standards. These are way easier. So she sits and shows her parents that the student, their child went from this on the scale to this on the scale. And she can print it out in First Author. You can crunch numbers for an entire class. So if you have administrators who need to know your efficacy across the board, you can crunch numbers in First Author for an entire group. In that -- teacher management section, you can also customize photos and vocabulary for an entire class. You can group like, "Here are my -- all of my kids in here who like iCarly." And you can have -- iCarly can create like a little group for that or the girls or the boys or whatever you want and have it all -- or the bowling pictures fly in to everybody's software and automatically put the words in for everybody. So we wanted this tool to be on the fly, easy peasy, plus have this power of progress monitoring built right in and you can do visual displays. I'm checking my time. I've only got 15 minutes left. So, we did that already. How am I -- how did I get back that far? Come on. We got to move through here. Oh. Expository genres. So here's an example of an -- some slides must have gotten out of order. So Expository genres, here's an opinion. "I like cat. Cats are nice. I want a cat." Now, "I want a cat." So you noticed more of them were opinion then "I want a cat." would be a plan. This is kind of fun to show you how we count. We count words for topic too. If it's like 52 words on cats and 51 words on dogs, the topic is cats because you got to pick a topic. So recount. Here's a personal story. We've read that one. Why am I backing up here? This is strange.

AUDIENCE MEMBER: [inaudible]

DR. JANET STURM: Huh?

AUDIENCE MEMBER: [inaudible]

DR. JANET STURM: I've got my thing upside down? There we go. Thanks. It takes a village to keep track of me you guys. I had a bit of a rough start to this presentation if you all recall.

AUDIENCE: [inaudible]

DR. JANET STURM: Woo. We got it back up. Woo. There, you get to see First Author at least a little bit. All right. Antonio. Antonio was this kid who worked on his first and last name from four years of age until high school. And guess what, he's a behavior problem. Significantly challenging behaviors, bad attitude, tough kid to have in the classroom. He got in the Enriched Writers Workshop. So the teachers in my research project were given the curriculum plus the software. Oh. By the way, you can customize for a kid and move it over a server and have it waiting on their computer when they get there. So really fun stuff. And so Antonio, here's his first day, gave him the benefit of the doubt. I think he's really a level three inventive speller, but we found some words there so we put him at a level seven. We can't tell his topic. He's an emergent writer. This was by the way in fall of 2011. He's a student with moderate cognitive impairments. And here he is fast-forward to April of 2012. He's in the Author's Chair which is a rocking chair in that room. By the way, sometimes the Author's Chair is the Teacher's Chair which

nobody's ever allowed in. So it's highly motivating to use it. Oh, my. So look at this. He wrote a label, "Our Author's Chair." He didn't spell it correctly, but his intent was a label. And so he's using word banks in First Author. He's finding his way to make meaning and text. Here is his a year later. Look at this. He's almost got that sentence, "I like to be fireman." He's writing a plan for the future in the words that we can identify. And then here he is in that same spring. Look at this one. He wrote this all by himself. I was there when he wrote it. Nobody was talking to him. He sat down and cranked this. That was the day he figured out capitals too. Is this not striking?

WOMAN: Yeah, it is.

DR. JANET STURM: So, "I like prom. I like to dance. My cousin danced with me." So, it will be no big surprise to you when I share this that when he developed as a writer and communicator, he started to believe in himself. He now knows he's one of the strongest students in his classroom. His behaviors have pretty much gone away. Oh, by the way, during when we were video taping in these sites, we saw one student who was like ready to throw chairs across the room and ready to hit his head in the wall. And then he sat down on the software and wrote quietly for 45 minutes. We're like, "What?" Like--it's like they just glue themselves together to get to do this thing that's really motivating to them. Increased--he's now reading. Because of -- we're finding out with students with complex instructional needs, their reading skills often come through their writing development, which is really powerful. And everybody else believes in Antonio now. So, he's a different kid. He's a totally different kid. So, First Author, I've already told you about. So, there's the dream behind it. We wanted it to be this integrated writing software tool that provided ease of access to planning, composing, revising, and publishing, and is accessible. By the way, First Author is accessible via scanning. There are multiple onscreen keyboard set ups. And we had goals for that one too. We wanted ease of access to planning, composing, and revising. We wanted--oh, it's so simple. Kevin Johnston at Don Johnston, he would say, "What can you take off this screen, Janet?" He was the developer. I'm like, "Well, I guess we don't need that." So, you guys wouldn't know how much work goes in to make something that simple. It took years to make it that simple. And we wanted to use research on the development of beginning writers like the word banks, like the--by the way, First Author -- in First Author, you can actually set the level of writer, level one through five. You will get two word banks, five through ten. You get four word banks, level 11. It's going to suggest you turn on Co: Writer if you have it. So we don't want kids to get stuck in word banks, and the developmental writing scale informs accommodations as well. We do have some people who think that they might put some level seven single word writers on Co: Writer, but they're a special kind of student. But it's interesting to think about the developmental writing scale in relation to technological accommodations, so we wanted it -- it's not a curriculum, but we wanted it to provide ease of access to what's going on in a really good instructional environment. So if we had good instruction, it would operate and put parallel with that good instruction. And then the progress monitoring section of First Author that I talked about. So here's some research that we did and we found in the first study that we did with the First Author software that I had to have you imagine together with me. You, guys -- at the Don Johnston website, you can go look at it if you

want to, but there is -- we had five Special Ed classrooms and you can see the breakdown, a total of forty-four participants. We counter balanced ability by rating them at baseline on the developmental writing scale. So we had so many one through fours in one group and so many ones through fours in the other group. So it was a nice way to balance ability levels. Half the students were told -- everybody was told you can write about anything you want. Half of them wrote on paper and pencil throughout the study, the other half wrote using First Author. What did we find? Well, they did -- we found -- by the way, everybody learned First Author easily. The students on First Author stayed writing a lot longer. If you just have a pencil and you can't draw a drawing or da, da, da, somebody says write about anything you want, you might terminate early, but First Author allowed them to be successful. Here's developmental writing scale level and these are the first ten writing samples. The first -- the effect was immediate and stayed consistent. This is statistically significant. The difference is between the paper and pencil students and the students on First Author. Our phase two research, we looked at one classroom of students who were physical otherwise health impaired in Michigan, type of classroom, students with moderate intellectual developmental disabilities and students with autism. And so half of them were on paper and pencil, half of them were on First Author, everybody got Enriched Writers' Workshop. So everybody got good instruction and I hedge my bets that First Author would still win and it did because the accommodations are essential. So look at this, total intelligent words, the First Author kid started slightly lower. And it wasn't just like volume, you guys, because if we look at the -- yeah, huge, 50 words in -- and it wasn't just volume because if it was volume, we wouldn't see quality changes. But on average, students moved up to a level seven. This is only the data on the students with moderate cognitive impairments. The autism data we're still working on, but I think we'll see some really nice outcomes there too, I'm hopeful. But this is clean, isn't it? It's really clean. What we find is that students who -- in order for the effects of Enriched Writers' Workshop to be in place, no tech or high tech accommodations have to be in place, otherwise, you could be a scribbler for years. Does that make sense? And so we didn't put any no tech accommodations in place, and we actually did Enriched Writers' Workshop for a period of time, and the gains weren't evident, and I [inaudible] because we didn't put in any accommodations. And so that's like make or break. That's one of the things I'm finding. And yet, the Social Care Ed and the social environment of Writers' Workshop is actually the glue for it all. Like they know they published in First Author and they're heading to Author's Chair. And they got something they're proud to share. So here's Michael, pretty cool looking kid. He's like 14 years old there, 14, 15, another student in Antonio's classroom. And here's what's striking. Here's his first sample. What's striking to all of you? It's fine motor skills, isn't it? He writes like a three year old. And yet, he's this really cool kid to talk to. There's a huge mismatch, just like with students with learning disabilities. There's a huge mismatch between what they can say and what they can put on a page. And so here he is -- okay, so this was fall of 2011. Here we are November of 2012, so a year later. He chooses Miley Cyrus. I was there, this is the first day. I -- that I -- that day, I wasn't there for most of the research, but I got to teach the kids First Author really quickly and then watch them giggle and look at all their personal pictures. These kids were from a really

impoverished area of Detroit and they had -- many of them had not seen personal photos of themselves. And so they sat there giggling of themselves with their body bowling and they giggled for ten minutes before they could even write. Or they had to try out every photo and write with it on day one, but then, they mellowed out. So it's really kind of this exciting time. So here he is, labeling Cyrus, Miley photo and then into playing with the Word Banks. You guys, this is day one, they have to experiment with the Word Banks too. Some kids, will I want to turn off the Word Banks and just let them inventively spell, sure. Might have different days, different things, yeah, because I think kids need to inventively spell. But here's what he said, hey, Mrs. Kaye, I just wrote a short story about Miley Cyrus. This is day one. Here he is a year later. "I become famous, a million fans, I want to be a famous actor. I will act." Level eleven, writing a plan for the future. This is -- to me, this is impressive. This kid who scribbled like a three year old is making these huge gains. And then that same era, he attempted persuasion and that's a really beautiful single sentence. "I like it because it is scary." Gravedigger. So when we think about these students with complex instructional needs, I'm always floored by the stories from the educators. Jenae said she could tell me a new story everyday. I'm like, "Could I just call you everyday?" Because she -- the paraprofessional, Karen Borsa, in Antonio and Michael's classrooms said, "I had these kids that couldn't write even. They could not write a word. They didn't know letters. Now, I have these same kids, I have Michael who would actually write backwards. He'd start on the right and write to the left, but he couldn't do it. Now, he's writing sentences on paper as well as the computer. It's amazing." And so, huge changes, huge changes, the anecdotes and the -- and the research is backing it up, which is really fun. So I am going to have enough time to quickly show you the Meet the Author, but this is the first cake. That same student, Kelly Amman, said, "Hey, Dr. Sturm, can we have cake on the last day?" I said, "Well, we need a reason to have cake." And Meet the Author was born. But -- so what do we do? We do trifle posters of each of the authors. We display their work, photo images of them as authors throughout the year. We do a whole lesson on autobiographies, we write their biography. By the way, in First Author, you can actually -- there's a biography section that could go with your publication. And there's Nicole, the one who wrote about Eat Milk and Kevin who wrote about combines for a year. He's got his John Deere hat on. He was one of the crankiest guys in the room, cranky, cantankerous, foul mood all the time. And one day, the teacher said -- he was like, "When's the doctor coming? When's the doctor coming?" And he meant me and my students, like he wanted to write, which is really cool. I can't tell you how many times teachers are like, "Wow, this is the best we've seen him all week." You know, and that's huge. So there they are -- that's Kevin with his parents. Parents are really touched by this. We do the bridge school, they do a big celebration every year, so they said, that was the best parent open house they've ever had. Parents were milling around and we do Author's Chair and they share it. Everybody in the audience can ask for the talking stick. And so here they are, look at cranky Kevin up in the right corner. He's positively joyful that day. And, um, there's Matt, really bright Matt, who was the one who got Shlynn to finally make a choice. Oh, he would avoid writing, angry, pound his fist. And I said, "Matt, you have so much in your head." He'd tell these gifted dark narratives and out loud. And I said, "If I don't

have you write, you will never become a writer. So we're going to setup a rule, you got to write the first two to three words, then it became a sentence." And I'll be -- and mad, because he probably technically just had a learning disability. And in the end, he began writing every weekend for leisure. And he didn't come from a great home. And so he wrote every weekend and he would show up with like five pieces to share with us. And these dark pieces for Meet the Author, you guys, dark pieces right, like not for public consumption, he went home, and he came back, and he goes, "All right, Dr. Sturm, I wrote something the big guys could hear." Oh, loved that. And so we have a lesson board or a board where we can display things, each of their photos, and what they wrote about that day. And so, you know, when we think about working with students with complex instructional needs, you know, it is such a game changer if we alter our attitudes and beliefs of what they're capable of. And we setup this wonderful learning environment where everybody is an author and we respect their student choices that they're always in the driver's seat, that we set them up -- I told my students when we're going in, I'm like, "Your job is to be fearless and joyful because some things might not go quite right, so don't let them see your fear or that you're not enjoying it because it's not good." And so, you know, respect them, celebrate all of their accomplishments, and really have it be student centered and set everybody up to be successful. And thank you so much. I want to end with one last slide. This is one of the students from the first time we had anybody on First Author back when it wasn't a very beautiful tool and they still loved it. And this is a student with severe cerebral palsy and her teachers are convinced that because she had access to that software, she became a writer. And she wrote fictional narratives as she imagined her life to be. And she says, "When I write, I feel free." So on that note, I think it's a good place to close out. And thank you so much for your patience today and being here.