>> So I'd like to introduce our speaker for today. This is Dr. Michael Coyne. He's a Professor of Special Education in the Neag School of Education at the University of Connecticut. He has directed numerous research projects funded by the US Department of Education, which focused on designing and evaluating effective instruction and intervention for students at risk for literacy difficulties within a multi-tiered system of support. Please welcome Dr. Coyne.

>> Well good morning. I'm Michael Coyne. I'm here from the University of Connecticut, and really pleased to have this opportunity to be here with you today and I'm really honored to have been invited to this -- this really great conference. So the title of this talk is Effective Teaching Strategies that Accommodate Diverse Learners. And just to remind you that the description is that we're going to be talking about principles of effective instruction, instructional strategies that can really maximize achievement for students experiencing learning difficulties and we're going to try to work in examples from lots of different areas.

My own background is in reading and beginning reading, so the examples tend to be a little bit weighted towards that, but we'll also try to work in examples from other areas as well. And later, we'll be doing some more involved kind of case studies and interactive activities, too. A lot of the content and the strategies and the principles comes from this textbook, or this text: *Effective Teaching Strategies that Accommodate Diverse Learners*, and when we're talking about diverse learners, we're really talking about, you know, the wide range of students that might be at risk for experiencing learning difficulties. So students with disabilities, students who are -- again, having difficulty in school -- students that may be learning English, so a kind of broad way of thinking about diverse learners that have significant needs in -- in schools.

So since it is first thing in the morning and this is the last day of the conference, I thought I'd start off with something a little bit more on the lighter side, to get us -- to maybe wake us up a little bit. One of the things that I do is I do a lot of research on vocabulary instruction with Kindergarten students. And as you can imagine, working with little kids, I'm talking to them about what they think words mean can be a pretty interesting thing. So I wanted to share with you some of the responses that we've gotten over the years about what words mean when we ask things like, "Can you tell me what this word means? Tell me anything that you know about this word."

So when we ask, "What does 'forward' mean?" It means, "This word has four words in it." Also, "There is a company called Forward that makes trucks." What does 'estimate' mean? "It means I'm guessing how much hair you have." Or, "You can also estimate peoples' brains and teeth, too", if you didn't know that. "What does 'participate' mean?" "It means when you show magic in the classroom." Also, "Participating your mother."

The story behind this one I don't think is true, but it's sort of worked up over the years, which is that this is a little guy that was not very happy about any of these tasks, so just said, "Your mother," after every word that we -- that we had asked. It takes a while to think of… "What does 'slumber' mean?" "It's a party in your pajamas." "What does 'blustery' mean?" "It means I gotta bluster on my finger." "What does 'separate' mean?" "When you cut your hair, it means that you separate the hair pieces." That's a very in-depth definition. "What does 'consequence' mean?" "One consequence of too much TV is you might get furry eyes." Which is true, I think. I've seen that happen. "A consequence of eating too much candy is he got crazy with sugar." That also goes for the coffee too, so, you know, take it easy. Finally, "What does 'blend' mean?" "When

you blend, it's like stretching, but you move around when you blend." That's a good one and, "If it's snowing and the cat's outside, then the cat would blend."

So I just like to share these because they're funny, but you can also see with something like vocabulary how kids are really kind of grappling with trying to learn what these words mean and connect them to their experiences. And so you know, what we're going to be talking about today is again; kind of principles of instruction that really helped kids learn and master content. So I want to start with a -- a relatively easy question or simple question, but one that's very important: Why do some students learn more faster? All right? So I want us to specifically think about this question, why do some students learn more faster in the context of these data here.

So these are data from a study that we did a couple of years back in early reading, and so what these are are the trajectories of reading achievement of three different groups of students from January through May. And you can see that all these groups started at about the same place, but one of the groups -- I guess that's the -- is that orange at the top? So you could see that the orange group grew faster and reached levels of achievement greater than the other two groups. And you can't really tell from the graph, but the difference at the end there is really substantial and substantial, meaningful differences in reading achievement by May.

So take a minute and think about, you know, just jot down a couple of ideas of what you would guess or what your hypothesis might be that what's -- you know, what -- what's going on with that one group of students? What's different about that group of students than the other group of students?

All right, so how many of you wrote something down like, "Maybe it was the characteristics of the students." You know, maybe it was their readiness skills, or their prior background knowledge, or their level of engagement, or their motivation, or something like that. That could be one possibility. Well actually, in this case, these groups of students are all exactly the same. So we identified students because they were at risk for reading difficulties. But then we randomly assigned them to these three different groups, so all characteristics across the three groups of the students are exactly the same, so these are all the same students, so that's not something that's going to be able to explain these differences.

You may have put something down about the teacher characteristics, maybe the level of training or kind of professional development or support that those teachers got, maybe their sense of self-efficacy. But again, that's also not explaining these differences here. We -- these are all similar teachers from the same schools that were, again, randomly assigned to teach different groups of students. And some of these teachers probably even taught multiple groups of students.

You may have said something like, "Maybe it was the content of what they were being taught?" Maybe one of that -- maybe the orange group is being taught, you know, content that was really more important to be teaching than other areas that would lead you to greater reading growth. But again, that's not the case, either.

So we see that there's a lot that's the same about these groups, right? Same student characteristics, same reading content, same teacher expertise; also, same amount of learning time. One group didn't get more instruction than the other. The group sizes were the same, too. The one thing that was different between these three groups was the quality of instruction. Right?

So it wasn't -- it was really how these students were being taught. Teachers in that group with the orange students were doing things, you know, were getting the instruction in those groups where things were being explained more, explained better, examples were selected really carefully, the kinds of feedback that students were getting, the kind of opportunities to practice. Those were the kind of things that were -- that were really different between those three groups.

And so what that kind of, you know, leads me to think about is this idea of an instructional perspective on teaching and learning, which is that how we teach -- the way that we teach -- is a critically important factor in how well students learn, how fast they learn, how much they learn. So the way we could think about this is -- what I think is powerful about an instructional perspective is that it involves framing problems in terms of variables that the teacher controls, all right? So we can't control where the kids are when we get them in our classrooms or in our groups. We also can't control the amount of time during the school day. You know, we could sort of work with it a little bit, but time is a kind of fixed variable, right? We also sometimes don't even have that much control over what we teach because of curriculum standards and, you know, the curriculum is pretty set.

But what we do have control over is how we teach, you know, how we organize and sequence and deliver instruction, and that's something that we have control over. And we know from a lot of research that the quality of instruction is really central to student achievement. It's one of the most important factors in again, how quickly and how much students learn. And so we know that we can teach the skills and the strategies in the content that students need to be successful, and this quality of instruction impacts learning. And when you think about it, sort of a simple thing to say, but I think it's really powerful, which is: the more carefully we teach skills, strategies, content, the greater the possibility that the students are going to learn those skills.

So one of the things we talk about sometimes is that learning is under instructional control. So one of the ways I like to think about it is kind of these two very different kinds of questions. You know, question one is, "What is it about this student that makes her unable to learn?" That's a question that we ask a lot. But a very different question is, "What is it about this instruction that makes this student unable to learn?" Right? Because when you think about it, what do we have control over? We don't have control over the students that we -- that we work with, right?

We -- we have these students and they have these, you know, level of expertise and skills and strategies and -- and different characteristics. But what we do have control over is the instruction, right? We can really think about what we can do with the instruction to make it more powerful. So sometimes, I think we spend a little bit too much time diagnosing the students and not as much time diagnosing the instruction. So that's -- that's kind of maybe the big message from this session. And I think it's a very kind of powerful, empowering kind of way to think about things, because we control the instruction, right? So that's something that we can really do something about to make a difference. Does that -- does that make sense?

And when we think about it too, I should have asked this before, just to get a sense of who's out -- how many of you are special education teachers? All right, how many of you are general education teachers? How about kind of related services? Okay. Administrators? Okay. Parents? Okay, great. So there's a -- there's a wide range in here. My background is in special education and, you know, when you think of a lot about things around the special education process and placement and all those things. But really at the heart of special education is the same idea, right?

Specially designed instruction; instruction that's designed very carefully and thoughtfully and intentionally, to really meet the unique needs of kids with disabilities. So I think sometimes we get kind of lost in all these other things when the really kind of foundational thing that we need to think about is the quality of the instruction that we're providing.

So I'm -- I feel very fortunate to have gotten to work with folks on this text. But I really like to acknowledge Ed Kame'enui who is my mentor and Doug Carnine. They are the ones that really developed and did the research behind the instructional principles that are included in this book. And it's designed around sort of six principles of instruction: big ideas, conspicuous strategies, mediated scaffolds, strategic integration, primed background knowledge, and judicious review. That's kind of a mouthful, right?

So thinking a little bit about principles of effective instruction, which is, "Don't introduce too much information at the same time with terms that could be easily confused." I'm -- I want to sort of narrow this down a little bit. So the way I want to talk about it today is broken down in a way that's a little less 'jargony', I guess. And one of them is we're going to focus on a little bit about what to teach -- not so much like *do we teach this or not*, but more *how do we organize and sequence the content*, and then *how to teach*, and that's sort of the primary thing that we'll be thinking about.

So what to teach is big ideas -- we want to teach big ideas -- and how to teach are things like conspicuous or explicit instruction, instruction that's scaffolded, and instruction that incorporates a lot of opportunities for students to practice with a lot of immediate and corrective feedback. So we're going to kind of work through those principles and with examples, and then we'll have some more integrative examples a little bit later on.

So big ideas -- we sort of live in a time now where there's this explosion of information, right? Have you ever read where it used to be that it seemed like the amount of information in the world would double maybe every 100 years? But now we're in a place where it doubles every like 12 months or something. So the amount of information that's available is just incredible, and the amount of information that students have to learn is incredible too, right? So in schools we're really pressured to expose students to information on a surface level sometimes, rather than teaching these kind of concepts and relationships in a way that results in a depth of understanding.

You know, how often do we hear like, "We just have to cover so much that we can barely do it, and we just kind of have to get through everything to get to the finish line." So we tend to sometimes, you know, teach for breadth rather than depth. And especially for kids who are experiencing learning difficulties who have to learn more in less time, teaching for exposure is really a recipe for continued failure.

And I want to -- I want to emphasize a particular term here: learn more in less time. That's a really important concept. So students who are experiencing learning difficulties have to learn more in less time. So what does that mean? So when you think about it, think about at the beginning of the year and we have two students: one who's on -- performing on grade level, and the other who is performing below grade level. If the goal is to catch up that student who is performing below grade level by the end of the year, just think about it. They have the same amount of time to learn more information than that student who's a typically -- that's reading or

learning on grade level, right? So the student who is already behind and having difficulty staying up actually has to learn more in the same amount of time than kids that are performing on grade level. So that's -- that's a lot to ask, right?

So if we're going to try to accelerate learning, we have to really think carefully about how we structure instruction to make it the most effective and efficient that we can. So this idea of big ideas, or really this idea that there are kind of fundamental concepts and principles that facilitate the most efficient and broadest acquisition of knowledge. And sometimes with this idea of big ideas is that there's certain things that we can teach that if kids really learn these in depth, but that means that they're more likely to kind of 'get' the whole kind of area, right -- so that these smaller ideas can kind of fit within these larger kind of constructs.

So again, this is sort of less about exactly what we teach, but more how we kind of sequence and organize and prioritize what we teach. So the concept of big ideas assumes that not everything contributes equally to learning. There are some things that are just more important to learn than others, and we have to make some of these hard decisions again, if kids are going to be learning more in less time. And this idea also focuses instruction on the most important ideas and concepts in the subject and allows for the most effective and efficient use of limited and valuable time.

All right, so a couple of examples of what we -- how we might want to think about big ideas. You know one of them and in reading -- reading is such a complex thing, right? That there's so many components and parts of it that it's sort of overwhelming to think about, and this is probably something that you've seen before, but one way to think about big ideas in beginning reading for example, is that there are these sort of, you know, five essential components or big ideas in reading that all have to come together to make successful reading, right? So we talk about things like vocabulary, comprehension, phonemic awareness, alphabetic principle, or phonics and fluency. So that's just sort of one kind of helpful way to say out of this big, amorphous idea of reading, here are the things we need to focus on, because we know all of these things are essential for reading success. So that's one example.

And we could actually go in even a little bit further with that -- with beginning reading. We can talk about kind of two large groups of -- of skills and content and knowledge that -- that contribute to successful reading, right? So one big group is this idea of reading words in sentences, so we can kind of lump phonemic awareness, phonics, and reading fluency all in that kind of area, right? That's the idea of kids have to be able to get the words off the page, right? They have to somehow crack this code of all these squiggles on the page and be able to figure out how to turn that into kind of language so that they can process it.

The other big group is sort of understanding what is read, so that's you know, things like vocabulary and comprehension. You know, being able to kind of construct meaning from what they read, understanding what the words mean, so those -- that's a sort of separate group. So we can almost think, you know, in some ways of this big group of -- of skills and strategies that go into reading, we can really focus on these two kind of areas, right? Reading words and sentences and understanding what is read. So that's kind of a helpful way to kind of think about organizing instruction.

It's also a way to think about kind of reading difficulties, right? So there are some students that have difficulty -- can you see the arrow? Yeah, okay. Because if I point, it's probably not going to help. So -- so there's kids that have real difficulty here, right? These are the kids that just really struggle with kind of getting those words off the page. These are kids that if you read something out loud to them, they would understand it perfectly. But because they have to kind of struggle with the decoding, there's nothing left over for them to be able to understand what they read.

Then we have sort of kids that have difficulty down here. Maybe early on, they're doing pretty well with alphabet knowledge and phonemic awareness, but they've somehow kind of hit -- you know, they hit a wall somewhere around second, third, fourth grade, where they can kind of read stuff okay, but they don't have the vocabulary knowledge or the background knowledge or the language to really sort of understand it. You know, if you read it aloud to them, it really wouldn't help, so it's also a kind of a helpful way to think about different profiles of -- of different kinds of readers or the kinds of difficulty that readers have.

So even within areas of early literacy or reading, we can get kind of overwhelmed pretty easily. So here's a lot of different dimensions of phonological awareness, right? So I'm not going to read them all, but all of these things kind of fit into the idea of thinking about sounds and language. And if you looked at something like, you know, a curriculum sequence or standards, you might see all of these things in there, and if you look at these, it feels kind of overwhelming. But one way that this idea of big ideas can help is that we know from research that really there's kind of two big ideas in phonemic awareness that we want to pay most attention to, right? Blending at the phoneme level and segmenting at the phoneme level, right?

So blending is putting individual sounds together to make a spoken word, so if I said, you know, "What word am I -- am I trying to say?" Fff-ii-n. What word is that? Fin, that's right. So, not really looking at letters -- just listening -- and that's a really important precursor to being able to decode and sound out words. The other one is segmenting at the phoneme level, which is pulling individual sounds apart in the spoken word. So if I said, "What are all the sounds in fin?" You would say, "Ff-i-n." Right?

So if we know that the research shows that these are the two things that are going to be most important for facilitating reading, that's a lot more helpful -- right? -- than having a list that looks like this. All right, so here is a kind of an example: pretend that you -- this is a seventh and eighth grade foundational math textbook that you're given as a teacher. And you're said you have to cover all of this by January. You know, 16 chapters and you can just sort of read the titles of the chapters. This is probably not the most helpful kind of way to think about trying to teach for depth or teach for big ideas. So just take a minute and kind of look through this and see if you can see any kind of commonalities or ways to sequence or combine or organize this that might be a little more focused on connections and -- and sequence than what this is. So just take a couple of minutes and -- and kind of think if you can kind of break this down into some big ideas that you think should be -- being covered in the seventh and eighth grade class.

All right, I think it's integers. I'm going to spend the whole time on integers. So here is one thing, right? There's a lot in there about this kind of big idea of proportions, right? So if you kind of looked through all of there, there's a lot of fractions and decimals and percents and ratios -- all those things are really kind of the same underlying math understanding, right? So in a way, you

would -- instead of kind of separating these up and across a bunch of different chapters, you know, it could make more sense to really kind of teach this idea of what it is -- what proportions are. And then suddenly, you're better able to understand things like percents and ratios and decimals and fractions and those kinds of things. So that would be one way that you might want to think about it.

You know, there's a kind of a components there that are measurement, and again if you can tie in something like fractions and then there's a couple of other things: metrics, geometry, charting. So this is -- this is actually an example. I think from some -- from a case study that's in the text. But again, this looks a little bit more manageable and maybe like students might come away understanding some underlying ideas about math, rather than just sort of saying like, "Did we get through all the chapters or not?"

You know, there's no one set of big ideas. It's more kind of how we think about organizing instruction. So these are just some other examples of what big ideas might look like across different areas. So in writing, you could think a little bit about that there is, you know, the author role, which is composition in the writing process, and then there is like the secretary role, right? Which is the mechanics, so that's one way to think about some of these big ideas. In math, if you're thinking about operations, things like number sense or place value or equivalence, some of the different properties, you know, science -- definitely things like the scientific method is a big idea -- this idea of observing patterns and controlling variables.

In the book, convention is used as a big idea. You know, something that can be used to understand sort of tectonic plate movement, as well as weather patterns, as well as you know, different kinds of cycles. Social studies, there's things like problem - solution - effect kind of a way to think about things in history. Things like multiple perspectives is a really good way to think and organize different ideas in history. Also, things like factors of group success. So we're not going to go into details, but -- and this is not an exhaustive list -- these are just some examples of ways that you could think about organizing content in a way that emphasizes big ideas.

Have any of you ever heard of Common Core? It's this thing we have in Connecticut, but I don't know if it's anywhere else. So the question always -- are you guys a Common Core state? Are you still doing it? Okay. Connecticut is starting to get kind of antsy about it. And we're a smarter Balance State. I don't know -- are you Park or Smarter Balance? I actually really like the Common Core standards. I think it's -- there's some really helpful things about it. But it is kind of overwhelming, right? It looks like in some ways that -- those chapters in the math book. So Common Core is something that you know, I think can really benefit from thinking about it in terms of big ideas. You know, being able to kind of look through Common Core and really identify here are these big kind of big, overarching constructs that are really important. And Common Core kind of does that I think in some ways, too.

But the idea -- big ideas is always kind of in context with what curriculum standards are, right? So they have to work together. So it's one of those things that when you're working with Common Core and dealing with Common Core, this idea of big ideas may be helpful in a way that's sort of negotiate how to best support students in being able to you know, master the content there that's in Common Core.

I know this is a big group, but I'm happy to take questions too, so we're going to move on to the next -- to the next piece. And maybe there'll be time later for questions also. So we talked about what we teach matters, right? But how we teach matters, too. We think a lot about what to teach; we don't think as much about how to teach. And I really think that for students who are experiencing learning difficulties, how we teach important skills and strategies may be even more important than what we teach. So how we teach is really whether or not kids are going to learn something and -- and master it and, you know, retain it over time.

So one of the ways that we can think about how we teach is this idea of conspicuous instruction. If you want to sort of say 'explicit instruction', that's okay, too. I think conspicuous is -- I like it and I'll tell you why in a minute. But the idea is that, you know, some students are able to infer independently the skills and strategies necessary for successful learning. But a lot of students, you know, many more students than maybe we think -- 60%, 80% -- will not discover effective or efficient strategies without instruction. You know, some kids just pick stuff up and it feels like, you know, they're just kind of pulling it out of the air and they are really successful.

But there are so many other students that are just not going to be able to do that. So the way that -- one of the ways to think about it is this -- that's definitions -- is that the strategies that expert learners rely on are effectively hidden from students experiencing learning difficulties, right? So think about *what does good reading look like*? It looks like maybe you're staring at a book for a long time or you're answering questions. But if you're not a successful reader, there's nothing that you can learn from watching someone read that's going to let you in on the secret of how to be a successful reader. So you're not going to just by osmosis become a successful reader by watching a good reader, right?

And so you know, the definition -- that's why I had it -- the definition of 'conspicuous' is -- where did I write that? Thought I wrote it somewhere. Well, it's making -- making something visible, or making something really clear, or making something apparent. So I like to think of it as sort of letting students in on the secret of academic success by really making these strategies and these skills and the things that good learners do, really obvious. Like, *I'm going to show you how to do this.* So I think that's kind of a good way to think about it is that you know, we want to kind of let kids in on the secret of what these other -- what other students are doing to make them successful; what I do to be a successful learner.

And so what conspicuous instruction or explicit instruction looks like is it teaches these really important things directly, explicitly, and systematically, because if these are really important skills and strategies, we need to ensure that students learn them, or else they're not going to be successful learners, so we have to teach these things as carefully as we can. Another important idea of conspicuous instruction is using clear and consistent language. We want kids to focus on what they are learning, not on the language that we're using to teach it. And finally, the most important I think is this idea of teacher modeling, right? So at every stage, we want to be explaining and demonstrating and thinking aloud and really -- and really sort of explaining and modeling multiple times before asking students to do things independently. Because that's really what teaching is, right? It's sort of showing and explaining and modeling and doing, and that's what kids really need to -- to learn these skills and strategies.

And we have a lot of research that says that that works. It should sort of -- straightforward, right? That if you explain how to do something, kids learn it better. And sometimes things like direct

instruction or explicit instruction kind of get a bad rap. But I think when you kind of break it down, I'm not sure why there's a lot of reason to -- to thing that it's something that shouldn't -- that's not effective, right? It's really just explaining and demonstrating how to do important things.

And, you know, this next one, if you can deny the personal gratification inherent in possession and good strategy, or the frustration inherent in the failure to discover such strategies. You know, imagine a student in a class, watching lots of other students be successful, and having no idea how to figure out what those strategies and those things are. I have a -- during my doctoral studies, I was one of the other doctoral students, my cohort was Sister Mary Karen, who was a Catholic nun that would wear a full habit actually all the time. But she was an amazing colleague and student. And at one time she used to sit right next to me and I heard her grumbling over there. I may have even heard a couple of four-letter words.

But what she was doing is trying to figure out Excel, like she had an assignment and she was trying to figure out Excel. And finally, she just blurted out, "If this is what they mean by 'discovery learning', I don't like it." So the idea is if someone had taught her directly how to use Excel, then she could use Excel for these other kind of authentic learning experiences, like doing her assignment.

And, you know, discovering how to use that for various -- applying it to other kinds of things, so there's -- there is -- there is certainly a lot of room for authentic learning experiences and discovery and kind of -- but you always sort of want to give kids tools to be successful at that first, right? So the explicit, conspicuous part comes first, then kids have the skills and the strategies and the confidence to go off and use those in really creative and meaningful ways.

We sort of think that maybe explicit instruction is only for some kids. But what we also know from research is even the kids that are higher performing students, they'll probably learn things faster than -- than they would if they sort of were left to themselves to discover it. But for students who are experiencing learning difficulties, teaching things explicitly is probably the difference between learning and not learning. Teaching, not testing -- I'll talk about that in a second. So does that make -- does that make sense? Okay.

So here are some examples. So we want to model things, right? So here are some beginning reading examples. So this is phonemic awareness example identifying first sound, so I might say, "We're going to learn how to say the first sound in a word," then put down two pictures that begin with different sounds, so this picture -- this is 'man'. Everybody, what's this? And this is 'cat'. Everybody, what's this? Okay, so it's my turn to say the first sound in 'man': mm -- man begins with mm. Okay, everyone say the first sound in 'man': mm. All right, so that seemed pretty easy, right? I'm just sort of showing you how to do it; I'm just doing it first.

But it's amazing how often that doesn't happen. Here's a non-example -- so we're going to learn how to say the first sound in a word. This is 'man', right? And this is 'cat'. All right, who can tell me the first sound in these pictures? So what am I doing there? Am I -- so what are some things that could happen there, right? Like who's going to answer, first of all? Kids that already know it, right? So why are you teaching it if kids already know it? Who's going to be confused? The kids that don't know it, right? So this is this idea of sort of testing, not teaching.

Like so much of what we sometimes that we see in classrooms is saying I'm going to teach you something, but then kind of turning it directly over to the kids to kind of figure it out or to kind of teach each other, or to -- or to kind of practice something without kind of teaching it first. And I know that's kind of subtle, but I think it's really important.

So the other thing that we want to make sure is use clear and consistent wording, so the first sound in 'man' is mm. Everyone, say the first sound in man. That's consistent, so I'm going to use that wording every time I'm talking about first sounds. A non-example might be something like, "'Man' starts with the same sound as the first sounds in mountain, mop, and Miranda. Does anyone know other words that begin with the same sound as 'man'?"

So what are kids doing when they hear language like this? They're trying to like figure out what you're saying, right? So instructional language should get kids focused on the new learning that's happening, not trying to figure out kind of what the teacher is saying. So sometimes what sounds boring to us, like saying over and over again, you know, "This sound is this. What is this sound? This sound is this. What is this sound?" Like, you know, it's like, "Oh my God, that's so boring!" But for kids who don't know the content, they love that because they don't have to worry about figuring out what you're saying or asking them to do. They're having a hard enough time learning the new content, so they can focus on the content; they don't have to figure out what you're asking them to do or what you're saying. So consistent instructional language helps kids really focus on the new learning.

Here's another example. So this is a math one: "I'm going to show you how to write the equation for this problem. All right? Ready? 2 + 3 = 5. Okay? So write the equation. Okay, now it's your turn to write the equation for this problem." So I'll -- this is kind of a non-example, so take a minute and sort of *think what could be problematic about this* and *what are some ways that you could adjust this to make it more conspicuous or explicit for -- for students*. So feel free to just take a second and talk with each other around. Like, what would you want to add to this to make it more explicit or make it more conspicuous?

Okay, so -- so this isn't terrible, but again, if we're thinking about kids that need the best instruction possible to understand this, we might be able to kind of make it a little better. I always -- I always tell my students this is -- I call it the "Louie Test." My first year of teaching, which almost did me in, I had a student, a third grader named Louie, and I think they hired me just for Louie, like he -- he might was going to be outplaced and they thought it might save money to hire me as a first-year special education teacher. He was a great kid, but he -- you know, he had real -- challenging for him to learn things.

And so my sort of test is I look at something and I say, "If I did this with Louie, would Louie learn it?" And you know, if you imagine a kid in your head that's going to have -- that has difficulty learning skills and strategies, I always find that's a really good gut check. You know, like if I -- if this was -- this was all I did, would this be sufficient for this particular student to kind of come away learning this skill? And to me, it doesn't -- this doesn't quite pass the Louie Test, I don't think. So basically, maybe what -- hopefully what you kind of talked about was maybe thinking aloud and going through it a little bit more carefully, step-by-step.

So you might say something like, "Okay, I'm going to show you write the equation for this problem. First, I'll see where the circle started. The circle started at 2, so I'm going to write the

number 2. Okay, now I'm going to see how many places the circle moved forward by counting the loops with my finger. Ready? One, 2, 3. So now I'm going to write +3. Okay, so now I'm going to see where the circle ended, right? So it's right here. The circle ended at 5, so I'm going to write = 5, right? So now I'm going to read the whole equation for this problem: 2 + 3 = 5."All right? So that's not a lot different, but it really is going, "Here is what I did to come up with this." Step-by-step, I'm going to kind of think aloud and model it, right? So is that kind of what you were thinking about when you were talking about this?

And so now it's your turn to write your equation for this problem. Sometimes, you know, we'll do the, "Okay, I'll model it once, that's great, and now you're on your own." So another thing to think about is probably kids are not ready to do it on their own right yet. So we also want to think about providing explicit conspicuous instruction, you know, during guided practice, too.

So we might want to say something like, "Okay, now it's your turn to write the equation for our problem. First, you'll figure out where the circle started, okay? Everybody, where did the circle start? That's right! The circle started at 4, so you're going to write 4. All right, now you're going to figure out how many places the circle moved forward by counting the loops with your finger. Okay, everybody do it. So how many places did the circle move forward? That's right! So you're going to write + 2. All right, now you're going to figure out where the circle ended. Where did the circle end? That's right. The circle ended at 6, so you'll write = 6. Okay, now read the whole equation for this problem. Excellent -- 4 + 2 = 6."

So even when we're kind of starting to let students do more of the work on their own, it's helpful to kind of go through the steps continu- -- you know, kind of that sequence between, you know, introduction and kind of guided -- guided practice can still add, you know, those conspicuous, explicit steps. All right, any questions about the kind of modeling explicitness piece?

So another thing we want to think about is scaffolded instruction. So scaffolded instruction, the way I like to think about it is that, you know, it's really hard to learn new things, and especially when what we're learning and teaching is really complex. So during initial learning, students need a lot of extra support, right? -- when they're first learning something. In the scaffolded, you know, it kind of comes from -- similar like a building, right? So when a building is first going up, you put all these scaffolds around the building, because it's not really able to stand independently. It really needs all these supports to kind of get established. But once, you know, it's up and it's standing on its own, then you take the scaffolding down and the building is able to stand independently, right? It's the same thing with teaching and instruction and students is that students need a lot of extra support at the beginning, and then later on we sort of take the supports away to -- so that students are able to kind of do skills and strategies independently.

So that's the idea of scaffolding. It's pretty self-explanatory. So a couple of ways to think about how we scaffold instruction is one of the ideas is how we sort of systematically sequence and introduce skills, right? So we want to start with easier tasks and get -- and lead to more difficult tasks over time -- pretty straightforward, but really important. And one of the ways that we do that is really carefully thinking about what are the examples that we're using. You know, sometimes what we do is especially if we don't have a lot of time is we kind of pull examples out of the air.

I know when I'm doing a presentation, if I kind of go off script for an example, it often bombs, right? If I think ahead of time the example that I'm going to use, I've already figured out that it's going to be a good example for what I'm talking about. And there's different kinds of examples, you know, you're going to think about using different examples when you're introducing something for the first time. What kind of examples are you going to use for guided practice? What kind of examples are you going to use for independent practice? You know, this could be examples like, "What word am I going to use if we're practicing this new decoding skill?" Or maybe it's, "Is this paragraph going to work for identifying the main idea?" Or, you know, "Is the independent practice set up so that kids are going to know how to do this, because we don't want them kind of struggling during their independent practice." So really thinking about the examples.

We want it to kind of build on and reinforce previously learned information. Another really important thing is introducing a manageable amount of information. We know that kids -- it's easily -- it's easy to get confused when you're introducing things together at the same time, especially if there are some similarities between them, so we want to make sure that we're not introducing too much.

What are two letters that kids get confused all the time? B and D, so how is the sequence of the alphabet usually introduced? In order, right? So where do B and D come? A-B-C-D -- like it's already set up for disaster. Like the first letters they're learning, they are just starting this off, and they get B and D within the first four letters, right? So it's this kind of idea that if we really want to make sure that kids don't get confused, we separate out potentially confusing information and we teach to mastery before we start to introduce new kind of complicated information.

That's why somebody's -- this talk is kind of hard because you have to learn like all these principles of effective instruction that could kind of easily be confused, so I'm kind of going against that. But you're all expert learners, so I'm able to do that. The other thing is that, you know, there's also things like material supports that we can use as scaffolds, so like graphic organizers, manipulative, procedural facilitators, you know, mnemonics, like little strategy kind of hints. All of those things are things that we add on early on in the initial stages of teaching and learning because they really help at first.

So here are some examples. I'm just going to read through this really quickly and your job is to see if you can kind of write down some things that are potential scaffolds, because this is introducing it for a very first time. Okay -- whoops. I'm going to try to do this. Okay, watch me read this word. I'm going to touch under each letter and say it's sound. I won't stop between the sounds. Ready? Mm-uu-d. Now I'll say it fast: mud. The word is mud. Now it's your turn to read this. I'll touch under each letter and you say it's sound. Don't stop between the sounds. Ready?

>> mm-uu-d.

>> Ok, try to say 'd'.

>> d

>> Very good. You read the word 'mud' -- very good.

Okay, now it's your turn to read this word on your own. I'll touch each letter and you say it's sound. Don't stop between the sounds. Ready?

>> Fin.

>> Okay, say it fast.

>>Fin.

>>You read the word 'fin'! Great job. Okay, so take a minute and again, what are some things in here that were built-in, either in terms of the example selection, the introduction of things, materials, what the teacher is doing, that are extra, like supports because this is very early for kids, and we're trying to add a lot of extra supports. So just jot down a couple of things that you can think of that could be considered scaffolds.

All right, I noticed it's not so easy to do this in here, but just raise your hand if you have something that you thought could be considered a scaffold.

>> [INDISCERNIBLE]

>> Okay, so you're kind of breaking down the words, all right. So you're not sort of saying, "Read the whole word," right? So you're breaking it down and going part to whole; you're saying each sound first before blending them together.

>> [INDISCERNIBLE]

>> Right, the language is very consistent, so it stays the same each time and it's really broken down into each component of the -- of the steps of the scale or the strategy.

>> [INDISCERNIBLE]

>> Yeah, so the modeling, even though we've kind of talked about that before, but modeling is really scaffolding. If kids can already do this, you don't need to model it. But because it's really early on, you want to model it. You could probably -- probably you want to model it more times than in this example, right? So the kind of model - lead - test/ I do - we do - you do, is a really good way to kind of scaffold things initially. How about like -- yeah?

>> [INDISCERNIBLE]

>> Right. Yeah, so for example selection, we started with sort of short, three-letter words -- CVC words. The -- all the letters make their most common sounds. Both words start with continuous sounds, which are sounds that you can hold out. So you know, the example selection is starting with words that are probably easier to practice the sound.

What about material scaffolds or anything else like that?

>> [INDISCERNIBLE]

>> Yeah, we're using tiles or manipulatives, like an [INDISCRERNIBLE] box. Also, the teacher is kind of pointing and, you know, kind of prompting with their finger or with an arrow. Yeah, so there's a lot of things built in here to really try to facilitate success early on. But, you know, later

on in the year as it's going to still be happening? No, you take all these things away. One of the things I think that's hard for those of us in special education is we're really good at scaffolding. We're not so good at taking away the scaffolding sometime, because we're so invested in kids being successful. But it almost takes as much planning to take away the scaffolds as it does to put them in in the first place, because we really want kids to be successful independently, without these kind of artificial scaffolds all the time.

Okay, here's a non-example. So pretend that this is what the -- the tools the teacher has to introduce the vowel combination 'oo', and we're going to assume that this is the first time that kids are learning what 'oo' says. So just take a look at this and -- and see if you can write down some things that might be problematic about this lesson.

>> [INDISCERNIBLE]

>> Oh, they're also learning 'ea'. I forgot to add that.

>> So I love this example. One of the great things about getting to do this and teach some classes about this is I collect non-examples. And the sad thing is that there's a lot of really good bad non-examples that come from various instructional materials over the years. So just quickly, what are a couple of things that you think could be problematic about this? Anybody have -- ?

>> [INDISCERNIBLE]

>> Yeah, E and A -- teaching E and A as 'ee' and 'eh'.

>> [INDISCERNIBLE]

>> And what about 'oo'? Too sounds for 'oo' too, right? 'Ooh' and what's the other one? 'Uh'. What else is problematic about this?

>> [INDISCERNIBLE]

>> Right. So if kids don't know 'oo' and 'ea' yet, would we expect them to -- are these good sentences for our reading words that have these vowel combinations in it for the first time? No, they're like multisyllabic words and really difficult sentences, right? And the other thing -- here's the best thing about this that I like: it's like not only are we teaching 'ea' as 'ee' and 'eh', but then down here they have 'bear', which has 'ea' which has a completely different thing. So not only are kids kind of have to guess when they see 'ea' as 'ee' or 'eh', but they're introduced to 'bear', which makes a totally different sound. So this text isn't really controlled at all for teaching these things.

So one, way too much information to introduce in one lesson. What would we probably want to do? Pick one combination and pick one sound, probably the most common use of that sound, right? So if we used 'ea', we would teach it as 'ee' first. And only when kids have really mastered it would we introduce that it says 'eh' and other things, right?

You want to probably control the words that we're using to introduce it and, you know, if we're going to do sentences, the sentences need to be really easy and so again, the sentences are to practice reading words with those combinations, not just reading the sentences, period. So, way too much information, not good examples, and you know, and not a lot of -- it doesn't really also

doesn't tell -- give the teacher much information about how they're supposed to do this lesson, right? So not much conspicuous support, either.

This is just another example of you know, kind of how to use some facilit- -- graphic organizers. So if we're talking about social studies, there are sort of two big ideas here. One is problem solution and effect, so that's a way to think about themes through history, so a problem could be not enough jobs and the solution could be build an airport. But the effect of that is going to be people get jobs at the airport.

But then if we're thinking about multiple perspectives, you know, this whole kind of solution could have a whole new problem for a different group, right? So building the airport, airplanes cause a lot of noise, people try to sell their houses and the noise of the airplanes makes it difficult for people to sell their homes and they lose money. So this is a kind of way -- it's a kind of complex way in a sense to talk about two big ideas: problem solution of fact and multiple perspectives. But organizing it this way with a graphic organizer can really help provide supports for understanding how all this stuff fits together. This might be my only social studies example. Okay, questions about that?

Multiple opportunities to practice with corrective feedback -- you know, kids -- we just need a lot of practice to learn new things, especially if it's hard and complex. So we -- there's lots and lots of research that suggests that opportunities to respond, which is really kids being engaged in learning. The more opportunities kids get to do something during instruction, the higher the learning outcomes, and that's -- that's a research finding that's been shown over and over again. So an opportunity to respond is any time a student says something, like says the letter sound or says an answer or points to something or puts a thumbs-up and a thumbs-down, or writes something down, all of those things are opportunities to respond. And so we want to maximize the amount of time that kids are really engaged in doing the kinds of things that they're learning.

So one of the things that we want to do in instruction is really maximize student opportunities to respond. And a couple of ways that we want to do this is one, is you know, rapid pacing to optimize engagement. You know, you don't want to go too fast and kids are lost, but we want to move fast enough so that it maximizes kids' attention. And also if you're maximizing pacing, what -- what goes down? Behavior problems, right? Because kids don't have time to get off-task if they're really engaged in learning. One of the ways to do that is group responses. You know those are kind of hard to do, but they're really powerful and I'll show you in a second. And also, things like small groups peer practice, you know. The smaller the group, the more times kids have a chance to kind of be involved or participate and contribute.

So say we were doing some letter sounds, right? So let's say we were working on vowels. Let's go through the vowels here. This is E. What is it? This is A, what is it? This is 'oy', what is it? This is 'ih', what is it? This is 'ah', what is it? Okay, did I get them right?

So I said, "Okay, now let's practice these." What if I went around the room and asked each of you and gave each of you a turn to do one of these? This is kind of overkill. It'd take a while, right? Okay, everybody together, when I point to this, you're going to say it's sound. Ready? Go. Okay, one more time. What is it? Okay, and when I point to this, you're going to say it's sound. Ready? What is it?

So how many turns did each of you get there? Like four, right? So imagine how many times it would have taken to get four opportunities to respond if I went around the whole room and did each individual kid. You know, group responses are tricky, because you think maybe there's going to be those kids that sort of wait to listen to everybody else and then chime in. But actually, once you -- if you practice it, you could actually get pretty good at hearing whether there's one of those kind of kids that's not doing it. And if you have concerns, it's always good to follow up later on with individual responses.

But group responses are really underused, and it's a great way just to kind of keep everybody engaged and maximizing the number of times they get to be involved in the instruction. It keeps -- keeps kids motivated, it keeps them engaged. Also, you know, you don't want to do, "Okay, I'm going to call on someone to come up to pick a letter, okay? Who wants to come up and pick a letter that we're going to do next? All right, come on up and…" Or, "I'm going to pass all these out…" So if the goal is really just to practice these letter sounds, it's -- the idea is like do it in -- do it in five minutes, give everybody lots of opportunities to respond. There is ways for kids to be engaged other than like let's take a really long time in between each example and talk about it or to talk about something else. So that's pretty straightforward.

The other thing is when we -- when we -- we want to give feedback, too. So one of the things about a lot of academic tasks, and I'll use reading for example, or even kind of math for example. We don't get feedback from the environment. How do you -- how do you know if you're shooting free throws and you make it? *Swish*, right? You get feedback, right? How do you know if you missed it? Like *clang*, or it bounces off.

If kids are practicing on their own, they don't get feedback from the environment about whether or not they read a word right or they answered a question right. So just imagine if -- if I put you in front of the free-throw line and I gave you a basketball and I said, "Practice 300 times," would it be helpful? Well, hopefully, right?

But what if I put you on the free-throw line and I blindfolded you and I put earphones over you so you couldn't hear anything, and I gave you a basketball and I said, "Okay, practice your free-throws 300 times." So you're not getting any -- you're not getting any kind of feedback from the environment, so you're -- you're probably 200 in and you're like, "I'm feeling good! This is awesome! I'm really getting this!" Right? Take off your blindfold and you're shooting it -- you're like throwing it over the top of the backboard.

So not only have you not gotten better, but you've probably kind of gotten in this muscle memory of doing it wrong, right? So what happens with kids for things like academic tasks is they don't get feedback from the environment, so what happens is a lot of practice without feedback, if it's not -- if they're not getting it right, they're going to kind of be getting into this rut of -- of doing things the wrong way and it's much harder to correct errors that are kind of fully formed than to kind of start off from the beginning. Does that make sense? So what we want to do is we want to give kids feedback about how they are doing immediately so that they can use that to adjust their -- their strategies or the way they're approaching the task.

And so we want to be -- we want to be giving immediate feedback and one of the things we want to do is we want to do is give specific positive reinforcement. So we don't want to say just, "Good job," or "Way to go," or "Awesome," because kids don't really know what they did that

was awesome. You know, they just know that they're sort of awesome all the time. And it sometimes sounds really silly when we say it, like, "Good job reading the word 'moon'!" or, "Nice job saying the first sound in the word, F," or "Great job adding 2 + 3." But in a sense, that's really telling them exactly what it was that they did right and if you think about it, it's a kind of subtle way to reteach it and reinforce it. Because in a sense, you're kind of -- you're kind of reinforcing it again, and especially if there are other kids there, they're hearing that, too. So even though it feels weird, it's always good to try to give specific reinforcement, *good job doing this exact thing*.

The other thing we do is we want to correct errors. And this is a -- if you're like a DI person, you'll know this kind of error correction procedure. But this is one of those -- this is one of those really high -- what do they call it? -- sort of high leverage teaching strategies that is a really great takeaway kind of thing, which is we -- if we correct errors a certain way, it just is really helpful. And the kind of way to do it is just give the kid the right answer, give them another opportunity to get it right, and then come back to it later on. It's really quick, it's really powerful, and a lot of times what we do is -- you know, it's our -- it's our instinct to do something different, right? So it's our instinct to say, "So I'm going to point to this and everyone say 'A'. Ready? What's this sound? Mm, okay hold on a second. All right everybody, kind of look -- look at this again for a few minutes. You know, try harder this time. Okay everybody, what is it?" You might say A again, right? There's no reason to not say A. Then you say, "Well, can anyone help -- help out here? Does anybody else know what this is?" You know, or "Remember, we did this yesterday? Remember we had the thing on the wall and think about the -- the keyword for that."

So that takes a lot of time and kind of the assumption is is that kids don't get it wrong on purpose, right? They want to get things right. So what we assume is they got it wrong because they're not quite sure about it and maybe, you know, they need more instruction or support. So what we do instead is to just sort of give the right answer. So do it again and say, "A." So what sound is this? The sound is "aah". Everybody, what sound is this? All right. What sound is this? What sound is this? Okay, let's go back to this tricky one again. What sound is this? Good job saying that tricky sound "aah".

So really fast doesn't embarrass anybody. You're not saying, "Whoops, that was wrong!" You know, "Bad job." And it seems so simple but it goes against our instinct, because we want to give everybody another chance like, "Ooh, almost." You know, "Do it again." But to -- to just kind of like not interrupt with the flow of instruction and say, "Oh, you know, this is the sound for the letter is this." What it is again, it gives the kids an opportunity to be immediately successful with something that they got wrong and then to circle back around to it later on.

Does that -- does that make sense? And once you start thinking about it, you realize that I know I don't do it very often or do it very well. But if that's something you think about, it's something that really kind of once you start doing that, you'll see that it's really helpful and really efficient. Okay -- so I'm just going to go through this really quickly to give you another example around some of this with vocabulary. So we're going to play a game about our magic word, 'fleet'. Fleet means fast. I'll show you some pictures. If you think a picture shows something really fast or fleet, put your thumbs up and whisper, "That's fleet!" If your picture doesn't show something fleet, put your thumbs down like this and don't say anything, okay? Oops -- where am I going? Well, I'm going up.

All right, do these kids look fast or fleet? All right, if you put your thumb up like this and said, "That's fleet," you're right. The kids in this picture look fast or fleet. The fleet boys ran out of the water. Okay, does this turtle look fast or fleet? If you put your thumb down like this, you're right; the turtle doesn't look fast or fleet. The turtle moved very slowly over the ground. Does this cheetah look fast or fleet? Yeah, it's fleet. If you put your thumb up like this and said, "That's fleet," you're right. The cheetah in this picture looks fast or fleet. Cheetahs are fleet animals. Do these jets look fast or fleet? Yep, same thing.

Does this baby look fast or fleet? He's got his kneepads on, so he might be pretty fast. No one said, "We didn't see the kneepads for a long time," and someone said, "See the kneepads on him?" If you put your thumb -- we're assuming it's kind of -- he's going a little slow. If you put your thumb down like this, you're right; the baby doesn't look fast or fleet. The little baby had just learned to crawl. So this just sort of shows a kind of another example of reinforcing correct answers with restating the answer, and even sort of adding a little bit -- a little bit extra. Plus another good things for scaffolding is for example selection is using examples and non-examples. If you only give positive examples, kids don't know where the -- where the concept ends, right? Once you give non-examples, it kind of carves out the space for what the -- what the word means.

So then the next activity in this is you're going to get to choose a picture and tell whether it shows something really fast or fleet. So kids, pick a -- pick a picture and then they have to ask if it looks fleet. But the thing that I really wanted to show you is that it talks about different types of error correction. So if the student answers correctly, the teacher is given guidance to sort of say, "Yes, that's right," and then follow up, "Why does or doesn't this picture show something that's fleet?" And then the student should say something like, "That's really fast or a baby is really slow." If the student says it incorrectly, the teacher or intervention is supposed to say, "This picture doesn't show something or does show something that's fleet, because it doesn't show something that's fast. Let's try again. Does this picture show something that's fleet?"

So one of the things that we almost never get in instructional material is guidance on how to provide feedback. That's something that teachers are kind of supposed to do on their own. And it's not the easiest thing to, because we're wanting to give feedback, reinforce correct answers, correct incorrect answers, and then try to get kids to elaborate or expand on things, especially if we're talking about kind of comprehension or content area or vocabulary. And we also have this other -- where was I? This is an activity where kids are supposed to tell about a picture, and so we have a couple of different options for how to give feedback.

So if the student says the sentence without the target word, so looks at the jets and says, "Those jets are really fast," we would say, "Great sentence. Can you say it again using our magic word 'fleet'?" And so if the kids can't do it, then it says, well, go back and model the sentence. So say, "Can you say the jets are fleet? Can you say that?" If the student says a very short sentence, you can say, "Great job telling me about the picture. Can you tell me a little bit more?" So trying to pull the student into saying a little bit more about it. And if the student can't say a sentence on their own, give an example like, "Can you say the boys are fleet?"

So it's not just saying either correct answer or an incorrect answer. It's kind of that follow up question that you -- that you give. How do you draw kids in and get them to elaborate or expand

or tell more or go on? And so it's one of those things where, you know, we kind of want to kind of thing about how that happens. Questions about -- about that?

So just as a -- we're going to review this quickly and then we're going to do some -- a couple of brief kind of case studies that look at this a little bit, but you'll get to do more in the smaller group. But I just want to kind of go over these idea. First we talked about the what to teach, right? Those are the big ideas. But then we've been focusing mostly now on kind of how to teach, and so here are the three things we talked about: explicit instruction, or conspicuous instruction, so the clear and concise language, modeling of skills and strategies. Scaffolded instruction, which is careful example selection, kind of going from easy to hard, really thinking about the examples we're choosing, introducing a reasonable amount of information with things that kids are not going to get confused, and also including different types of material scaffolds.

And finally, opportunities to practice with corrective feedback. Those are maximizing opportunities to respond, kind of rapid pacing, really getting kids engaged and involved, and then making sure that we give feedback, reinforcing and restating specific feedback for correct answers, correcting errors by giving the right answer, and giving another turn, and then also trying -- you know, follow up questions that get kids to expand and elaborate.

So one of the things about this when you think about it, all this stuff is hard, right? And it takes a lot of time. And I think one of the big things about this when I think about it, if this is hard to do on the fly, right -- I mean you can understand all these. But if you're sort of relying on the fact that you're going to be able to kind of do this as you're going, it really becomes very challenging, right -- to say, "Well, I'll just come up with examples." Or, "When we do our vocabulary instruction, it takes so long to come up with student-friendly definitions that they understand," right?

So if you're thinking, "Well, if I come across a word that the kids don't know, we'll just define it in the moment." Or, "I know how to correct errors. I don't need to really think about that." So I guess one of the ideas about this is -- this is stuff that really requires kind of thinking ahead and planning ahead. But that doesn't mean that these things aren't doable. I mean they're really -- they're very doable and the great thing about this is it sort of works across all kinds of areas of instruction, right?

You're going to be modeling and explaining things, no matter what you're teaching. You're going to be thinking about supports for students no matter what you're teaching. You're going to be giving feedback and opportunities to practice, regardless of what you're teaching.

I'm going to skip this example and we'll maybe go through and do the -- the case studies in a second. But to kind of go along with what I just said, there's kind of three ways that we could use kind of in principles of effective instruction, right? One of them is that we can think about these things when we're developing instructional lessons, tools, and materials, right? So if we're developing things, we could think about making sure that we incorporate modeling and explicit instructions, scaffolds, opportunities to practice, right?

We could also think about like we have these instructional tools, so when I'm talking about tools, I mean like whatever kind of materials you're using; if you have an intervention program, if you have a core curriculum. You know, any kind of things that you're using to support instruction.

So you might have something like the EAOO example -- actually that might be past saving. But you might have an example like the math example, where it's not that hard to kind of go back and say, I'm going to model a few extra steps of this, or I'm going to model two or three examples, even though they've only got one example modeled. So there's ways to go in modifying instructional materials.

And then the third way that's really important to use these principles is when you're doing -- you're selecting materials, right? So maybe you're a special education teacher and you have some money to buy a new intervention program. Like one way is to kind of, you know, dig deep in that intervention program and look to see is this supportive of me? Is this going to help me with not having to do this stuff on the fly? Are -- is it focused around big ideas? Is there modeling? Are the example selections really good?

So all these things are important. Kind of what we've been talking about though which, you know, is I think this is really hard -- this first one. And I think, you know, in some ways that you know, we can do these kind of things and we have to sometimes when we're especially trying to really develop individualized instruction. But I'm not sure that it's always the job of the teacher to have to develop stuff from scratch or to reinvent the wheel.

Kind of the way I think about it is teachers deserve to have good tools that have good principles of effective instruction built in. Teachers are supposed to be delivering instruction and responding to kids' needs. They're not supposed to be coming up with "Here is the eight examples I'm going to be using today." You know, "Here is how I'm going to sequence this over the course of six months," or something. So in some ways I think, you know, it really helps to kind of think about either taking something that you have and modifying it or really if you get the opportunity to evaluate or be on a curriculum or adoption committee, that's where it can really have a lot of influence on selecting something that's going to help facilitate this kind of instruction.

One of the things I've been seeing a little bit around getting ready for Common Core, which I didn't -- I sort of thought that what Common Core would do is make things more consistent across schools and across states, right? Because this was going to be common for everyone. But in Connecticut anyways, what I've found is that it's led to a lot more of this, which is that schools and districts are saying, "We have to sort of stop what we're doing and kind of start from scratch.

We have to redevelop the curriculum and come up with all these lesson plans and activities for teachers," which Common Core being so rigorous, it just seems like that's such a really challenging thing to do. You know, when instead of really thinking about kind of looking at the kinds of tools and materials and seeing how we can either modify those or adopt materials that will be consistent. So that's just my own kind of personal experience. I don't know what you've experienced around Common Core -- not that we can't do this, because this is really hard.

All right, questions about any of that before we kind of do one of these case studies? Yeah?

>> [INDISCERNIBLE]

>> Yeah, so the question was, "Is this just for kind of kids learning things initially in elementary school, or does this work in middle.." you know, are these the kind of principles that are still

going to be effective in middle school and high school? And I would say, you know, yes. I don't think these are -- these are sort of common instructional principles that -- that, you know, work in all instances -- adult learning.

I think one of the things we get caught up on is really important thing is that the instruction has to match the level where students are. If you backtrack and do a lot of this modeling and with kids that already have -- already know the skill, then it becomes that kind of kill and drill kind of thing. It really has to be exactly aligned with the -- and that's the whole thing of scaffolding; it has to meet the learner where they are. But I'm not sure if we're going to get to the case study example, but there's a lot of kind of strategies for how to -- you know, if you're thinking about doing a long-term assignment or more advanced strategies, you know, the same thing about kind of modeling, explaining how you do things before -- I mean sometimes, a lot of times in middle school and high school -- I have a daughter that's in high school. She comes home with homework that hasn't been explained to her, or like she's learning new skills as the result of the homework, rather than explaining the -- you know, the new content in school and then the homework becomes practice. So you would do the same kind of thing if you were introducing that in the middle school or high school.

Other -- other questions? So let's -- how many of you have the materials on a laptop or a -- probably a better question is how many of you don't have the materials? Okay, well that's pretty good. So we have some copies going around -- and a couple of case studies. And there's one packet that says "Case Study Beginning", another one that says kind of, "Case Studies Conclusion." So let's start with -- let's start with Case Study 2, all right, who is Muriel.

So what you're going to do is take a few minutes -- so probably take about ten minutes maybe -- to read through the beginning of the case study. And it sort of ends at a kind of cliffhanger a little bit, so what you're supposed to do is read through that, kind of think about it a little bit, answer the question: what could be done differently? And then to not read the conclusion, because we're going to talk about it first and then we're going to read the exciting conclusion and then find out what happens. Okay? So we're going to focus on reading the beginning of Number 2. And when you finish reading it, feel free to talk about it in your group. There's kind of a discussion question at the end.

>> [INDISCERNIBLE]

>> Yeah, we're going to start at 2. We're going to skip 1 and we might come back to it if we have time, but we're going to do Number 2 - 2 - Muriel.

>> All right, why don't we -- why don't we stop there. Okay, so Mary L., she is a first-year Kindergarten teacher and she has had some very powerful learning experiences, learning about science, a really kind of interacting, interactive, kind of student-centered kind of instruction that she thought was very powerful. So her goal is to create a community of Kinder-scientists, which I think is cool. So she comes in and she -- she's planned this lesson to really help kids learn about properties and similarities and differences. So she has this activity developed around kind of sorting buttons, so she has bunches of buttons in these different learning centers and she instructs the students to go to the centers and sort the buttons with other buttons by how they looked and felt, and she set the timer for seven minutes.

It says at first, she was encouraged by what she observed the children went quietly to their stations and began to observe the buttons. However, within a few minutes, many of the children began to play with the buttons and after about four minutes had lapsed, the noise level in the room had risen dramatically. At the end of the seven minutes, many of the buttons were on the floor and those that had been sorted into piles seemed to lack any observable organization.

When she questioned her students about the strategy they had used to sort the buttons, only a few were able to answer. She was surprised by the students' difficulty with this seemingly simple activity. She had done much careful planning in designing similar types of interactive learning activities for her students and hadn't even considered the possibility that her students might not respond or learn from this approach. She felt like she had already failed and was unsure of what to do next.

First, does this sound like a potentially realistic kind of situation? Any of you ever had a lesson that like tanked? Yeah, me too. So the kind of question here is, you know, you know, that you have to kind of go back and rethink things and how to do that. So the idea here is you know, given what we talked about today, what are some things around some of these principles of instruction that we talked about that, you know, maybe she hadn't really thought enough about, or what could she do to make her instruction more likely to result in student success. So anybody want to offer any kind of -- either thoughts about maybe what was problematic about this or what would be some ways that she could improve this lesson? Yes?

>> [INDISCERNIBLE]

>> Okay, so really three great points there, in case you didn't hear. So one point was just sort of letting Kindergarteners loose for seven minutes without a lot of structure maybe isn't the greatest idea. Two was that there wasn't really any modeling, so she didn't kind of show kids what she was hoping that they would be doing, right? Or kind of saying, "Here's how I would -- I might do this, or here's how you might do this." And the third thing was that -- a pretty complicated to kind of think about all these various attributes at first, right? So there's -- there's all different ways that you could sort things, right? Color, shape, texture -- all kinds of other ways -- and that may be too much, right? Maybe too much information, asking to do too much at one time. So all those are kind of three things that -- that could be challenging and by, you know, providing more structure for the time, modeling, and then maybe reducing the sorting to one attribute to start with could be a good thing to do. Other thoughts? Yeah?

>> [INDISCERNIBLE]

>> Right, so there was buttons that went home, but there really wasn't -- it was sort of like take a look at the buttons and talk about them. But if it sort of started with some ideas of start thinking about these particular things, so kind of trying to build a little bit more background knowledge that's specific to the -- to the task or to the learning goal -- could be a good thing. Yeah, great. Yeah?

>> [INDISCERNIBLE]

>> Right. So during this, there could've been more scaffolding by her being involved in kind of helping to guide them to the place that she is, you know, not to all of the exact same place, but to

being more involved while they're making it more of a kind of guided oppor -- guided opportunity, than just sort of completely independent. Yeah, that's a great idea, too.

>> [INDISCERNIBLE]

>> Yeah, so the comment was especially for younger kids sometimes, it's great with a new manipulative to get some time to play with it first. I think we should all get a chance to play with stuff first before we actually have to do something with it. So that's a great idea. So they've gotten that out, like two purposes, right? They get to play with it but they also get to understand and think about and learn about it, too. That's a great idea. Yeah?

>> [INDISCERNIBLE]

>> Right, so the -- the comment was that she probably had ideas for how she wanted them to be sorted, but the kids weren't getting any feedback from what they -- from, you know, the buttons weren't saying, "Put me over here!" So if she had gone around and kind of given feedback around, you know, that was guiding feedback, reteaching feedback about what kids should be doing, that could be helpful.

>> [INDISCERNIBLE]

>> Yeah, I don't really know that, but I have a sense if that's a really kind of held particularly with this activity maybe. So you know, they read the book but it doesn't sound like there was a whole lot of connecting the book to the activity, so it might have been a nice sort of entry to it, but it didn't seem like there was any kind of explicit connection made between the book and the activity that the kids were doing.

All right, so do you want to see how it comes out? All right, so if you read the Conclusion to Case Study 2, you'll find out sort of how it ends, and then there's some -- another discussion question, too. So take a minute and read through that and also when you're done with that, I'll talk a little bit about the question at the -- at the end.

>> Okay, I think -- I think in the interest of time, we'll -- we'll move on a little bit. We will move on. So I think in the conversation before, I think we did a pretty good job of kind of figuring out maybe what -- what could be problematic and what were ways to revise the instruction. You know, she -- according to the case study, she does some more. She does more modeling, she does more scaffolding, she focuses on a specific attribute, she connects it more with a different story -- so kind of all those things that we had talked about, she does an it comes out more successful next time.

The interesting question is kind of at the end, which I'll sort of rephrase a little bit. Do you think there's a way for, you know, inquiry-based instruction to be to work together with explicit instruction? You know, are those things mutually exclusive, or can we do both? You know, can we sort of think about the goals of, you know, really student-centered, interactive, you know, inquiry-based instruction at the same time, thinking about some of these principles of effective instruction? Did you get a chance to talk about that at all? Anybody have any ideas? Yes?

>> [INDISCERNIBLE]

>> Right, so the comment was that, you know, if we really are doing things carefully over time that if during the beginning of the unit or the beginning of the year, there is more the modeling and more of the scaffolding, and students have kind of, you know, mastered these -- these kinds of strategies and thinking and content in this kind of more structured, explicit framework, then kind of move towards release of responsibility to later in the unit where is more of these kind of inquiry-based student-centered kind of activities. I think that's really -- that's really a great way to think about it, which is not either-or, but it's part of a progression through initial learning to more kind of guided practice, to more kind of independent, authentic practice or opportunities. Yeah?

>> [INDISCERNIBLE]

>> Right, yeah. So -- so another kind of way to think about it could be is that there could be some sort of less structured opportunities to explore early on, but then gets drawn into this place where there is more structure and support and explanation so that it's -- again, it's not sort of one or the other -- but you think how to combine both of these things in -- in a way where it's supportive. But I think -- you know, I think -- to me, the goal always is that you -- there's always going to be students, you know. We want to make sure that every student has the tool necessary to benefit from the kind of less structured opportunities, right?

If it's like -- some of the kids are going to get something out of this and a bunch of the kids aren't, but maybe they're not in the right place to be able to do that. Or, you know, can we build in the supports for the students that -- that are -- that are not going to be necessarily successful from having this kind of free, you know, more independent activity because they don't have the tools -- they have been let in on the secret yet of how to be successful during that kind of activity.

Okay, so let's do one more of these. I was going to One, but I think we'll do Three, because it's a -- it's a high school example, and so that kind of extend things a little bit. So let's start off with Case Study 3, which is Jeff, I think. So we'll read the beginning part of -- of Jeff and there's a couple -- there's a discussion question at the end of that.

>> All right, I -- I'd like to give you more time to discuss, but we are getting close to the end, so I want to make sure that we get out on time. Okay, so Jeff is a special education teacher in high school. He supports kids mostly in the ninth grade in the resource room and he says that he finds it challenging to address all his students' needs within the limited instructional time available. He struggles trying to balance teaching fundamental skills and strategies with helping the students stay organized and caught up with their classwork. He finds that more and more of his time his students have taken up reacting to their immediate needs at the expense of direct teaching skills and strategies. I feel like all I'm doing is give out band-aids without addressing the root of their reading problems.

So he makes a decision where he's going to kind of stop for a while, directly kind of helping them get their homework done, and he teaches sort of explicit comprehension strategies for being able to understand the social studies, text, and create an outline. It seems like it's going really good but then at the end, the social studies teacher says, "I don't think these kids are ever going to understand this content. This was the worst outline yet. Didn't you get a chance to help them with it in the resource room?"

So it seemed that maybe by taking resource time away from working on the assignment itself, the students actually did worse. So first of all, is this sort of a realistic situation? How many of you are middle or high school? Yeah, how many of you struggle with this very same thing around -- yeah. You know, stepping back and teaching skills and strategies versus, you know, really helping with the kind of day-to-day assignments and staying on top of things. So it seems like he did a pretty good job with -- with teaching these. Did you see anything that may -- might be problematic, like they weren't able to do this on the science or the social studies? Yeah?

>> [INDISCERNIBLE]

>> Okay, so he used some really great examples. He kind of came up with his own examples that were really -- that worked really well for the initial teaching. But what he didn't do is actually use examples from the social studies book itself. Yeah?

>> [INDISCERNIBLE]

>> Yeah, so maybe they were transfer but there wasn't communication between Jeff and Sally. In fact, Sally seemed kind of surprised, like she sounds like she didn't even really know what was going on in the resource room. So maybe it's sort of that kind of communication or making that direct link.

>> [INDISCERNIBLE]

>> Yeah, four weeks might not be enough, yeah, to really be able to kind of successful now in general education social studies class. All right, so quickly read the rest and then we'll finish up.

>> Okay, sorry to cut you off on this, but we kind of got it right again. So the important part here is this idea if we're teaching for transfer, right? So that -- you know, in a sense kind of taking the scaffolds away. So what happens is he does work on using old chapters from the book to practice on and to being explicit not just about how you do this when you're in the resource room, but providing conspicuous, explicit instruction about how you use this in other areas, right? So the kids were sort of said, "Oh, I didn't know that we could do this in our regular -- our general ed classroom," so it's that idea for teaching for transfer.

Okay, so this is just a quote I like: "The greatest danger for most of us is not that our aim is too high and we miss it, but that it is too low and we reach it." And so, you know, I think high expectations are really good and I -- and I think to kind of come back around that the power of instruction is the way that we're -- that we get to these higher expectations. As teachers, we have control over that. We know what it -- we know the kinds of instruction that results in -- in accelerated learning and, you know, it's something that is -- is -- is highly effective in that. It's really important to -- to consider, and that we don't enough.

Okay, so I'll leave you with a final noteworthy response. What does greater than mean? We were thinking that it meant like, you know, 3 is greater than 2. But this little girl said, "It means that I can do more gooder stuff. You can draw a picture that doesn't have dinosaur teeth. I can draw a picture that does have teeth. Mine is greater." So thank you so much. I really enjoyed being with you today and especially at the kind of near the end of the conference. So thanks so much for hanging in there and glad to see you.