- [Host] The LD@school team is very pleased to welcome our guest speaker, Usha James, whose presentation this afternoon is entitled "Assessing Thinking in Fluid, "Manageable and Authentic Ways." The Ministry of Education has provided funding for the production of this webinar. Please note that the views expressed in this webinar are the views of the presenter and do not necessarily reflect those of the Ministry of Education, nor the Learning Disabilities Association of Ontario. We will also be tweeting throughout the webinar, so if you would like to participate, you can send us a tweet by using our handle @LDatSchool, or the #LDwebinar. And that takes care of housekeeping for this afternoon, so let's get started. It is now my pleasure to formally introduce our speaker, Usha James. Usha spent 12 years as a secondary teacher and five years at OSIE at the University of Toronto as an instructor and then as director of the secondary program. She has coauthored textbooks, teachers resources, course profiles and ministry documents with the aim of providing practical strategies for teachers seeking to refine their practice. Usha has contributed to the Critical Thinking Consortium, also known as TC2 or squared, as a resource writer and facilitator and is currently the executive director. Usha has worked with principals, superintendents and teachers of kindergarten students to post secondary students, supporting their efforts to improve the quality of thinking of all learners. Welcome, Usha, the cyber floor is now yours.

- [Usha] Thank you and hello everyone. I'm just gonna take a moment to share my screen. Let's see if I can do that. Sorry, Cindy, it's not giving me the option right now.

- [Cindy] Okay, there should be a little popup box that says--

- Oh, there it is. Yeah, I gotcha.

- Okay.

- Okay.

- Good.

- Sorry folks, hello everyone, let's try that again. It's lovely to have you with us today. I'm gonna say hello very briefly, just because sometimes I can be very impersonal, I think, sometimes when we have a webinar. So, I'm gonna show my face briefly. I wish I could see yours. I can already see in the list of people who've joined, that I know some of you and have met some of you before. And for those of you whom I've not met, hello and welcome and I look forward to connecting with you sometime in the future. I'm gonna turn off my screen just to ensure that I'm not eating up everybody's bandwidth and we can get started, oops! Okay, so, we're gonna start with a little poll, just so I can get to know you a little bit. You heard my introduction, so I will pass it back over and somebody is going to launch a poll, I think.

- [Cindy] Hi, Usha, we can't see your slides at the moment.

- [Usha] Hmm, let's try that again. Are we good?

- There we go, yep.

- [Usha] So, I was just suggesting that we were gonna launch a poll, so I will leave that to you. There we go. So, I'd just like to know a little bit about what you teach or what your role is in the school system, and so, we've invited you to let us know a little bit about who you are. I'm going to, while you're doing that, and people are finishing, I'll tell you a little bit about the Critical Thinking Consortium. I'm not sure how many of you are familiar with us, but we are a not-for-profit organization and we've been around for 25 years. We're pretty excited to be celebrating our 25th anniversary. We started in BC and we now work across the country and a little bit internationally. And our mandate is to help support anybody who is trying to nurture better quality thinking amongst all of their students. And really, it is all of their students and that's what's quite critical to what we're talking about today. How do we ensure that everybody, regardless of the classroom they're in, regardless of whether they have an identified learning disability, regardless of

what their needs and recognizing their strengths, everyone is invited to think in such a way that we can actually assess that thinking. So, thank you. Everybody has, or many people have, participated in the poll and I can see that many of you are in the classroom and about equal amount or maybe half as many are outside of the, sorry, outside of the classroom and then about half of you inside the classrooms, so thank you for that. Lots of primary teachers here with us today and lots of support people outside of the classroom.

[Usha] So, we are gonna get started, we're gonna jump right in and I'm gonna try to model some of the ideas that I'm suggesting that might be used to make thinking visible and then to assess them. So, I'm gonna ask you, whatever you have in front of you, you may have a screen in front of you, of course, but you may have a piece of paper, I'm gonna ask you to select one or two learners that you know, that perhaps that have learning disabilities, who's thinking you wish you understood better. So at this time of the year where we have gotten to know many of our students, many of our learners, some of you are working with adult learners. So, I'm gonna ask you to pick one or two, whose thinking you'd like to understand better and I'm hoping by the end of the webinar, you may be able to plan a strategic next step to better understand and nurture their thinking. And you'll see that I've added here, by assessing and teaching some intellectual tools. So, we are gonna touch on today, some of the tools that might be helpful, intellectual tools that might be helpful when we're assessing students. And I've asked you to start a thought book. So, for us, a thought book is a place where students thinking can be messy. It's not something we actually evaluate, but we want to try to encourage students to understand that thinking is iterative, it's messy, it's okay, we can take a risk and put our initial thoughts down and return to them later. It doesn't have to be perfect the first time that we put it down. So, a thought book is a really interesting mechanism to reduce anxiety, to help students take a step forward, to put their initial thinking on paper. So, I'm gonna ask you to do the same thing. Select one or two learners whose thinking you wish understood better and then just jot down their names, and are you thinking of a next step to better understand their thinking, understand and nurture their thinking? So, throughout the webinar today, although we won't be stopping

frequently to ask questions, we do wanna make sure that they are questions that we are gathering for the time at the end of the webinar. So, I'm gonna point you towards the chatbox and invite you, knowing what the topic of today's webinar is, do you have any questions or priorities or concerns that are immediately rising to the surface? When we talk about assessing thinking in fluid and manageable ways, what kind of questions, priorities or concerns are rising to the surface? I'm gonna pause and invite you to take 20 seconds and record a question or a thought in the chatbox. Take a minute, nah, not a minute, let's say 20 seconds, and see if you have a question you'd like to share. I won't call on anyone, I promise. And at the end, feel free to continue to add questions throughout the presentation, and at the end, we may be able to select a few of them and speak to them. But if you wish to ask in the middle, I will keep my eye on the chatbox and see if something comes up.

[Usha] So our first question that I hope that we, that I'm sure is in your minds, is how might we make thinking visible? It's really an important question to ask ourselves everyday. If we're going to assess thinking in fluid and manageable ways, that means in the moment, we are going to be able to capture the quality of the students' thinking in front of us. We need to first make sure that we have created opportunities where that student can make their thinking visible. If we are in a classroom and only a couple of kids are putting their hands up and making their thinking visible, how will we be able to regularly assess those students? We don't wanna wait until the end of a unit or the end of a learning cycle in order to gather a product. We wanna make sure we see it regularly. So, I'm going to do a little activity with you, we'll see how it goes with so many people online. And hopefully, we can use it as an example. Some of you who know me have seen this before, so bare with us and I hope you'll engage still. Here's an example of what an activity might look like that makes thinking visible. So I'm showing you a photograph of some kids playing soccer and my question is how likely is it that there will be a goal as a result of this play? So, now I am gonna ask you to respond in the chatbox, we'll see how it goes. I'll give you 30 seconds or a minute. I'd like you to pick a piece of evidence that you see in the picture in front of you that makes you think that it's highly likely there's going to be a goal. That it's likely, somewhat likely, there's going to

be a goal. Unlikely or highly unlikely. And perhaps, put that piece of evidence in the chatbox, and if you will, with a number that matches how likely you think it will be. So, I'm gonna invite somebody to start and put something in the chatbox for us. Four, three, two, one, what evidence do you see and how likely do you think it will be? You gotta... We got a few people typing. So, if you pick a single piece of evidence like we had somebody do, there doesn't seem to be anybody in the way of the goal. So, nobody seems to be immediately in front of it. I've had somebody say to me, "There's no goalkeeper." To which I often will respond, "Well, what about this fellow "in the yellow and the black stripes that's in front?" And somebody will say, "Well, that's not the goalkeeper." 'Cause the goalkeeper has a different color jersey. Somebody might say, "Well, he seems like he's really strong." This number 10, "He's got a good position." And I might ask them, "Tell me what you see and hear "that makes you think that he's strong "and he's in a good position." And they'll point to further evidence. The point here is that we put an ambiguous situation on the screen or in front of students. It could be a picture, it could be a piece of text, it could be a dataset. The idea is we put something that's not quite clear what the answer is, in front of student and then we invite them to make a reasoned judgment. Decide what's happening in this picture. And I've seen many of you, especially primary teachers, many of whom are with us, use inference, for example. Let's put a picture up and invite students to infer, what's happening, what is this person feeling? Math teachers might put a dataset up and say--

- [Woman] It's all good.

- [Woman] Yeah.

- [Usha] "What might this graph be about?"

- [Woman] Oh, yeah, something logical.

- -[Usha] Oh, I've got... Science teachers might put up some data from an experiment and say, "What conclusion can we draw?" An English teacher might read the, just show

the title of a book and say, "What do we think this is going to be about?" So, an ambiguous situation, for which there's no clear right or wrong answer and then asking students to make a judgment. The more that we can do that in class everyday, around multiple pieces of our curriculum, the more we make student thinking visible. That type of activity, that type of instructional approach, we call it a critical challenge. And I'll point you to some resources that you can look at for further information. But a critical challenge is set in the context of a problematic situation. So, it's a question or a task we ask students to do where there's multiple, plausible answers. There isn't a single right answer and that's what makes the situation what we call problematic. A critical challenge requires reasoned judgment, so it's not just a brainstorming, it's an actual decision we want people to make at the end. So, for example, in this activity, I didn't just say tell me what you see in the picture, tell me what you're wondering. I went further to say make a decision, how likely is there going to be, how likely is it that there's going to be a goal? That's a crucial element of a critical challenge that it requires some reasoned judgment. When we invite somebody to make a decision, to make a reasoned judgment, we make their thinking visible. When we ask them to tell us one thing they see, we don't really understand their thinking yet, we're simply, sort of, what are they noticing? When you ask them to make a decision, they might say, "Well, I see this and this, and therefore, I think that." And that will help us assess their thinking. And finally, a critical challenge requires the competent use of intellectual tools for quality thinking. And so, I'm gonna talk a little bit more of those tools later but there are five intellectual tools that we have identified that all good thinkers need. And this was a really crucial element of my understanding when it came to creating classroom activities to nurture the thinking of all students, is that, well, how do we know? We can ask a great question, but how do we know if somebody is going to give us a great answer? When they give us an answer that's superficial, why is that? And what I've learned is that everybody has strengths in certain intellectual tools and everybody has needs in certain intellectual tools.

[Usha] And so, particularly for the students with learning disabilities, what are their strengths in terms of thinking? And where is it that they might require some further

development? Those are the things we might wanna look for. And by focusing our attention on simply five intellectual tools, we are able to narrow and pay close attention to where students might be strong or where they might need support. We're not gonna spend a lot more time on thinking about critical challenge, but we have uploaded a handout which helps you think a little bit about what are the questions I'm asking now that may actually not make student thinking visible? And how might I tweak that question just a little bit so that it actually asks students to make a reasoned judgment? So I hope that you'll take a moment and look for that. There are many other resources on our website, tc2.ca and I encourage you, especially if you're from one of our partner groups. Everything on the website is free to our partners and you can check if you belong to one of our partner groups by going to our website, tc2.ca and clicking on about and looking for the list of current partners. And that will make everything free, but even for those of you who are not partners, there's a lot that is free that you can take a look at and models how might you ask a question that makes thinking visible. And that's really the most important, for Stepik, we're going to assess thinking in fluid and manageable ways.

[Usha] So, if we were in the same room, or if I had lots of you respond in the chatbox, I might have learned something about your thinking and that's really what assessment is. What are we learning about our students in the moment? I like to use that phrase because I'm not sure that's the way we think about assessment all the time. Assessment is about learning our students, learning our learners. And if we approach that everyday in our classrooms, everyday with that sort of mentality, what am I trying to learn about my students today? And that will guide the activities we choose. I often ask teachers when I'm in their, I'm in classrooms quite a bit, and I often ask teachers when I'm in their classrooms, "What did you learn about your students today "that you wouldn't have learned or that you didn't know "before they did this particular activity "that you organized for them?" And I think that it's an important question to be able to consider when we're planning for tomorrow, what am I trying to learn about my students? And if we keep that in mind, that an assessment really becomes something that we are considering on a moment by moment basis, not just for the projects at the

end or the tests at the end. So, when we make thinking visible, as it says here, we're able to fluidly assess. And when we can assess in the moment, we can notice, ha-ha! I noticed that Azra was able to pick out pieces of evidence that other people didn't even notice. That's a real strength she has. Or I noticed Johnny was able to change his mind when he was presented with new information, or I noticed Usha was unable or didn't look beyond sort of the central image of the picture, she didn't look around the edges. Or I noticed that Susanna was sort of paralyzed by a decision she didn't even where to start. So, when we notice our students thinking, we can then consider what they might need further and how we might develop that. So, there are lots of different examples of how we might make that thinking visible.

[Usha] I'm going to really quickly go through a few of them, just to paint a little bit of a picture for you. I will focus on examples from the primary, junior and intermediate grades, because I know that's most of whom we have here today and we'll see if they resonate. And they're in all different sort of subject areas. So, here's a math example and it's a interesting one for this time of year. Sometimes we ask students in primary grades, this is an open number line, place the picture on the number line, based on what you think the temperature is outside in each of these pictures. What is the outside temperature in each of these pictures? Where would you put it on the number line? And I'm just gonna give you a second to try it in your minds yourself. What do you think the temperature, for example, is in B? And where would you put that on the number line? Close to the right hand side? Close to the left hand side? In the middle? In relation to it, where would you put F? So an activity like this clearly has multiple applications in different grades in mathematics. If we had A, B, C, D, E, if we have these in front of students and they are physically either moving the cards and placing them along the number line or putting the letters along the number line and working with a partner and talking about it, we have just made their thinking visible. We can wander around and listen and we'll learn about, for example, what's their background knowledge about temperature? Who's looking at B and saying, "I don't know, "that looks like it's 100 degrees." Or who's looking at F and saying, "I don't know, "that looks like 20 degrees." We will learn about their background knowledge. We'll also learn about what they

understand about the relative size of numbers, in terms of how close or how far they put these numbers or these letters away from each other on the number line. So, we'll watch and we can notice and that helps assess in the moment. And that will help us make a decision, who needs what? Does the whole class need some direct instruction about something that has to do with math or temperature or number lines or number size? Number size numeration, or is it, you know, these five kids, I'm gonna pull them aside and have a conversation with them to provide a little bit of background knowledge or give them a thinking strategy. Similarly, we now say, now that we've put all these pictures in, where's zero degrees on the line? Where's 15 degrees on the line? So, add another challenge to keep the thinking visible. So, short challenge at the beginning and then add a challenge afterwards.

[Usha] Let me give you another example. This was a group of, a teacher with her students, in social studies, asked the question, they were looking at community and what must be needs and wants and what's nice to have in our community, but instead of just coming up with a list of what we have in our community and what would it be nice to have, she had students categorize different parts of a community into these concentric circles. So, put in the middle what's most important to have. Put in the outer circle what's important but now a must-have and in the very outer circle, what's nice to have. And you see in the pictures there, as students sort of grappled with it, they, again, you would learn what's their criteria for something that's crucial versus something that's nice to have? And you'll be able to sort of determine who needs more work on criteria, which is another intellectual tool. Here's a secondary science example and this comes right out of one of the resources, it's free up to everybody on our website. It's actually a series of lessons on solar energy. And what we try to do when we create lessons is they're comprehensive, so they have the teacher instructions, they have the student briefing sheets, they have activity sheets that make sure, that make the thinking visible. And often they are alterable.

[Usha] So, sometimes we have word documents so that you can change the reading levels, you can make them your own, et cetera. So, these come from a project around

solar energy and the question, the critical challenge, was which vehicle is better for the environment, electric or gasoline powered? And so, you can see that students will learn a little bit about the two different types of vehicles and then they'll use a rating scale from zero to three, which is better for the environment based on a number of criteria? So I hope you're sort of getting the picture of what it might look like. I encourage you to potentially follow us on Twitter at TC2thinks, because teachers are constantly putting up ideas of what they tried in their classroom and they're tagging us. And so, it's an easy way to get ideas of how might we make thinking visible. Lots of ideas out there, so please consider following along and seeing if you come up with any ideas that are relevant for you.

[Usha] So, let's move now to this question, what helps us? Once we've made thinking visible, what helps us assess student thinking, what might we do? So I can imagine I'm in a classroom, I'm standing next to students, I'm listening to them, what am I listening for? Well, this is where the intellectual tools become important. So, there are five intellectual tools that we might be looking for on any given day with any number of students. And I would never suggest that you're going to be able to assess all students in one activity at the same time. So, we suggest that if you make thinking visible every day, by the end of the week, you will have gathered assessment information on all of your students. So, assess what? Is the question. These five intellectual tools, the research that our framework is based on, identify the five intellectual tools that all people need in order to be good thinkers. So, it says here, students, but I would say teachers, principals, you know? Our spouses, everybody needs these intellectual tools in order to be a good thinker. So the first tool is background knowledge and I talked about that a little bit already, so you can't think about nothing. Everybody needs to have some knowledge that they are thinking about. But, what we're looking for is not simply do they have the knowledge, but also can they draw upon accurate and relevant information in the face of a challenge?

[Usha] So when we look at that, for example, that math number line activity, we are looking at do they have some background knowledge? Do they understand

temperature? But we're also looking for, in the moment that they're faced with a challenge, can they draw upon the knowledge that they need? So, we know lots of students, who, their struggle is to activate their prior knowledge. So they don't actually make connections between what it is that they know about the world and the challenge in front of them. And if that's what we're noticing, if you know that student understands the seasons and you've seen it in other contexts, but somehow, right now, in the face of this challenge, they're not activating that prior knowledge then that's something we could teach. We can teach strategies to activate prior knowledge and that's different than dumping them with more knowledge. So, it's important to figure out which one is it? Do they not have the background knowledge? Or are they just not drawing upon it right now? A second thing we can look for, is are they using criteria to make decisions? So, if I'm asking is A better than Y? Or A better than B, X better than Y? Or how similar are these two things? Or is Franklin a good friend? Or whatever the question I'm asking, that requires them to make a decision, are they using criteria to make that decision or are they just saying the first thing that comes to their head? Or are they just going with an emotional response? So, criteria is a really crucial element of assessing thinking. Are they looking at the factors they need to consider? And it's a complicated intellectual tool, it's something really important that we pause and ask students, what are the reasons that you're saying that? What are the factors you might consider?

[Usha] One of the important things, especially for those who are, you know, one of their challenges is working memory, let's say, for example, is how do we keep the criteria for a particular decision visible? So that they don't have to hold on to that, but they can refer to it. So, I know an example I know many of you may be choosing, but in, I'll choose a mathematics example in math, we're often asking students to pick an effective strategy to work through a problem. What makes a strategy effective? So, if you're doing a three part lesson and you're doing a consolidation at the end and you're saying, "Oh, this person "or this group used this strategy, "this person over this group used this strategy," then what are we analyzing about those strategies? then what are we analyzing about those strategies? How can we say, "Yeah, this strategy is really good when, "and this other strategy is very good when?" And we can surface the criteria for

an effective strategy. And once we do that, we can put it on the wall, we can put it on a board and students can contentiously return to that criteria for making a decision. Or if in geography, as I said, we're looking for a sustainable solution, well, what is the criteria for a sustainable solution? Can we co-construct it as class? Can we test it? And then can we put it on the board? Or on the wall, or wherever? But the idea that we are looking for whether students are using criteria when making decisions, and then we are intervening with some instruction if they are not. Third, do students understand the thinking vocabulary? This is a really important intellectual tool to look for because we know, especially from EQAO, we know that one of the main reasons, the main barriers, one of, to student achievement, is that they actually don't understand what the question is asking them. And so, how do we watch for whether students understand key words in a question that have to do with the type of thinking that they're being asked to do? So, I'll give you a quick example, we often ask kids to justify, in all subject areas, whether it's in language or in math or in geography, history, justify your answer. And really, if you're truly making thinking visible using a critical challenge, it means that person A could come up with a different answer than person B and that means that you want them to justify their answer using some evidence. That question is often asked on standardized assessments also. What... Do students understand what it means to justify their answer? Are we sure? Or do they get confused between justify and explain? And I'll tell you one thing, all kids know how to justify something. Even if they don't understand what the word means, there are very few students who couldn't justify why they need a particular new toy or why it wasn't their fault when something happened. They know how to justify, but maybe they don't understand what the word is referring to when they say it.

[Usha] Similarly, do they know what evidence means? Do they know what a conclusion is? Do they know what an inference is? So all of those words that we use to indicate the type of thinking we're looking for, we call that thinking vocabulary. And when you ask a question that has some of that thinking vocabulary in it and you make student thinking visible, then you can figure out whether or not they understand that thinking vocabulary. And if they don't, if you're hearing them explain when you wanted them to justify, or

describe when you wanted them to justify, then you could pause and you can do a little bit of mini teaching, right? Or you can pull a small group aside and do some instruction around that word Four. Thinking strategies. Do students effectively employ useful thinking strategies to work through a challenge? So, we know a student needs a thinking strategy when they are overwhelmed by the evidence. So we do know that sometimes, when students, especially the students that we are working with, that are looking at all of the evidence, it seems overwhelming. They're anxious, they don't know where to begin. Or they hone in on one corner of the evidence because it seems manageable, but it's very difficult for them to look through all of the evidence. A thinking strategy is a series of steps or sometimes it's a graphic organizer that helps students make sense of all of the information. It helps them organize it and categorize it, apply some criteria in order to make a decision. And finally, so we wanna be looking for whether kids have thinking strategies.

[Usha] So, a really simple one is do they talk to a partner? Do they say what they're thinking out loud? Do they point to certain parts of the picture? Do they circle certain words in a math problem? Do they reread? So, what thinking strategies do they use? When we make their thinking visible, we can watch for it and if we don't, if we want to, we can either highlight a strength, look at the thinking strategy you have and we can name it so that it's more likely that they transfer it, or we can teach them a new thinking strategy. And finally, we wanna be looking for student's habits of mind. So those are those personal characteristics that good thinkers have. So, are they flexible-minded?

[Usha] So, do we notice that they change their mind when they're presented with new information? Well, we won't know that until they make their thinking visible and watch for it. Are they attentive to detail? Do they persevere? Are they open minded? These are personal characteristics, we call them habits of mind that all good thinkers have. And what we've noticed is that it's important to pause and say, "Okay, for this challenge, "it's gonna be really important that we're flexible-minded." Or, "It's gonna be really important "that we are attentive to detail." Or that we're comfortable with not knowing the answer because there is no right answer to this. So, you know, it might be hard, but we're not

gonna know what the answer is. We're never gonna know what the answer is to this question I'm about to ask, so that's an important habit of mind we're all gonna have to learn right now or develop or demonstrate. All of these intellectual tools, these five intellectual tools, are things we can think about ahead of time, before our lesson or before our unit and say, "Okay, the central challenges of this unit "are gonna require, "what background knowledge, what criteria, "what thinking vocabulary, what thinking strategies." And I can, on my clipboard, have the students names down the left and have the particular thing that I'm looking for across the top, these five categories of intellectual tools, then which background knowledge or which criteria. And then as I present challenges throughout the unit or throughout the week, I can look for that with students. And once we get good at it, I know people who have been able to have a little space even for anecdotal evidence. So what do they hear a student say in the moment that shows that they have the background knowledge? Or what did we hear students say that shows they have a thinking strategy? And when you capture it in the moment, you can pretty much have your report card comments building throughout the year. But that's the idea. Let's make it visible and then fluidly assess and then document. And I hope that what I'm mentioning makes the point that we can't really do all the assessment we need of thinking, through the product alone. We have to observe, we have to have conversations. There are certain things we're not gonna see in a final product, whatever that might be.

[Usha] And so, it's really crucial and we need to look at the five intellectual tools. There are some that are really hard to get out of a final product. Like how will I see a student's thinking strategy in a final product? Sometimes it's impossible, because it's what they use in the moment. So, having a system in order to see student thinking in the moment and then capture some of that in the moment is really important. I'm gonna tell a final story and then we're gonna pause and invite some questions. But I'd like to show you how this might play out in a classroom. So, how might we capitalize on student strengths and support students needs when they're faced with a thinking challenge in the moment? How might we assess and then make a decision about how to support them? I was working in a school with a number of teachers and they have this question

that students don't really ask themselves. "Does this answer," in math, "Does this answer make sense?" so, they have given a question, they provide an answer but they're not checking their answer to see if their answer makes sense. And they were really concerned, we wanna teach kids about does their answer make sense.

[Usha] So, what we did was, we said okay, let's first make sure that that's truly sort of a case with all of the students, or is it just a couple of students? Or who needs this? So we ran a grade two classroom and we said to grade two students, "We're gonna give you a question "and then we don't want you to answer the question, "we're gonna give you an answer "and then I want you to tell us if the answer makes sense." And so, the question was, "10 geese were in a field. "About the same number flew in and joined them. "How many geese might be in the field now?" And we told the students, "The answer we're gonna give you is the fields was muddy. "Does this answer make sense?" And we had given all the students white boards and this is what they did. "No, that doesn't make sense." It was quite clear. You can't say the filed was muddy to that question. Then we gave 'em a different answer. This time we said, "What if the answer is there are no geese in the field? "10 geese in the field. "About the same number flew in and joined them. "How many might be in the field now? "There's no geese in the field. "Do you think this answer makes sense?" And this is what happened. They weren't sure. They turned to each other, they talked and we listened closely. We made their thinking visible and we listened closely and this is what we discovered. We discovered that some students already knew that they should add 10 geese in the field, the same number flew in, they knew how to do it. We learned that some didn't understand the language or they didn't pay attention to the language.

[Usha] So, we were saying flew in, they were thinking flew away and there was something there with the language that was important. And we learned that a number of them didn't know what it meant for an answer to make sense. What do you mean an answer makes sense? And so, now what? So, what we decided was we were gonna have to do some direct instruction in the moment about what does it mean for something to make sense. And so, we went back to the question, or the answer, "The

field was muddy," and we asked them, "How come that didn't make sense?" And they talked to us a little bit about it and we were able to surface some criteria that an answer makes sense if it actually answers the question, if it fits with what we know about the problem and it fits with what we know about math and the world. We're talking about geese flying in, the field is kind of irrelevant. It doesn't fit with what the problem is. So, since these were the criteria that we surfaced and we talked to them about it. And then we thought where else could these criteria be applied? And we realized that anything we were looking at, you know, does an answer make sense? Does a calculation make sense? Does an estimate make sense? So the same criteria were gonna be useful in a number of different situations. And so, in this way, we asked a question, we made thinking visible, but we had planned ahead of time.

[Usha] We knew what we were looking for ahead of time. We were looking for do they have criteria? And that was the particular intellectual tool we were paying attention to and assessing, in the moment. So, I hope provides a little bit of a picture of what assessment in the moment might look like. It's really our criteria for how do we assess thinking in the moment? We need to make sure that our approaches to assessing thinking in the moment are accurate. So we know what we're looking for, we've made thinking visible and we are looking for the.... The actual task is going to surface what we actually are looking for, that they're engaging, because if they're not engaging, the students aren't gonna make their thinking visible because they're not gonna engage in the challenge at all. And they're constructed in a way that allows all students to demonstrate their thinking. And this is really important and inclusive classroom. We wanna make sure that whatever the challenge is, it has an entry point for every student in that classroom. And we will do another webinar on differentiating challenges, so in an inclusive, in any classroom, really, how can we differentiate the challenges so all students can enter? Even if they're not all playing with the exact same challenge. And of course, assessing in the moment has to be feasible for the educator, so we need to find innovative ways to document what we're learning about students in the moment.

[Usha] Whether it's using technology to our advantage or whether it's finding different

ways that we might, use checklists or continuums that will help us document student learning. Okay, I'm gonna stop there and invite you to go back to what I asked you to do at the beginning. If you now think about those one or two learners who you are hoping, you might understand their thinking a little bit better and if I were to ask you to plan a strategic next step to better understand and nurture their thinking by assessing and teaching those intellectual tools, what might you try? What might you try next week? Or this week? What might you try in order to make thinking visible and assess in the moment? What would you be looking for? What's your hunch about what their strengths and needs are? And how would you capture those and then make decisions about it? I hope that's been useful. Our framework at the Critical Thinking Consortium is really quite rich and we've really touched on a very small portion of it today. So, when we look at our whole framework and we work with different districts and schools across the country, we look at all the different ways that we can promote thinking. And all the different ways those intellectual tools support our work. I'm gonna pause there and I wonder whether there are particular questions that you may be interested in. Please feel free to put them in the chatbox or I'll hand it back over to Cindy, who might have a question she would like to share.

- [Cindy] Thank you so much, Usha, for sharing. You have incredible, incredibly extensive knowledge and expertise and I know our webinar participants today are going to go away with lots of really great practical strategies to assess the thinking and the learning of their students, all students, but particularly those with learning disabilities. So let's move on then to the question and answer part of today's webinar. And as Usha had mentioned, if anyone has questions, please type your question into the chatbox and I will be happy to read it out. And I actually do already have a couple of questions, Usha, for you. And the first one is... This is a... It's framed as a practical question. "In a class of 30 students, how can I, practically speaking, "record or document what I learn about my students thinking "and the potential next steps would be?"

- [Usha] That's such a question. So, I'll share with you what I've learned from teachers who are doing this type of work and I think we are all grappling with it. There are so

many challenges in our classrooms. I find it very difficult, as do many of you, to ensure that I'm capturing and assessing thinking. I think the key is to not put the pressure on yourself to actually assess everybody's thinking from the same activity in the same moment and that's sort of a message that I hope comes out loud and clear. If we understand the targets of our assessment, so if we're looking at the curriculum expectations and we know I'm looking for this curriculum expectation or demonstration of understanding of this big idea or I wanna make sure students understand this strategy. Then, inevitably, you're going to approach that strategy or that big idea or that curriculum expectation multiple times. It won't just be a one shot deal. And so, how can you plan several opportunities over the course of a day or of a week, where students are making their thinking visible? If you are able to do that, then you may catch four students today and maybe another five tomorrow. And maybe you'll have a small group, you know, guided reading table and you'll be able to focus on those five kids at that time. So, I think it's really important to understand that it has to be feasible for the educator. Multiple opportunities to make thinking visible and then cutting yourself some slack that I may only catch four kids today, but I will catch a few tomorrow top. And over the course of the week, we'll have richer information about all of our students.

- [Cindy] That was a great question. That was also a great answer, thank you. Okay, next question. "Where can I find more information on intellectual tools "and students with learning disabilities?"

- [Usha] Okay, great question. Cindy, I wonder, I should have done this before we ended. I wonder if you can flip back to my... Are we able to flip back to my screen?

- [Cindy] Susanna would be able to make you--

- There we are.

- The presenter, yes.

- [Usha] Okay, great. So, I'm gonna prep this final slide for me. Oops, I'm not showing that screen yet. Okay, there we go. So, I'm going to direct you to our website, which is on the screen in front of you, tc2.ca. And there are thousands of resources there in general about thinking and teaching and assessing for thinking. There is a particular resource. We're actually gonna do a webinar later in this year about it, that we've created, that takes the learning for all document and is a series of sessions for educators to think critically about that learning for all document and also how to implement it with all students to better understand their thinking. It's on the Ministry website. It was funded by the Ministry and created by the Critical Thinking Consortium. You can also, if you can't find because in EduGames and it's kind of buried, as many of the resources on the Ministry website are. You can email me and I would be happy to share it with you. And I think important is to understand how we might differentiate any resource for all of our students. And I'd happy to speak with you about that or to connect with you about that, so please don't hesitate to be in touch if I can help.

- [Cindy] Great, thank you, Usha. So, Susanna, if you could put my screen back for presentation mode, please. Okay, and I'll just enlarge it. Okay, so we do have another question here and this one has to do with assessing a student who is a selected mute. How can we assess a grade two student who is a selective mute? So, selective mutism, in a comprehensive way, when we are missing the explanation portion of his assessments. We have yes, no, pointing, pictures and writing, he's able to do, but reading, for example, is an area that we cannot assess fully. What would you recommend?

- [Usha] It's a really good question. I think it's applicable to a number of students. For example, so selective mutism but also English language learners who may not have the language. There's a number of different students this question may be applicable to. And I certainly won't profess to have all the best answers. I think there are many people on this webinar that are greater experts than I am, but I would be really interested in all the different things you're already trying. I wonder, though, whether it's possible, depending on the reading capabilities of the students, to offer a challenge as follows.

So, say, for example, you're using pictures, you might have a picture and then you may have several explanations that you provide of the picture. For example, four different captions of the picture. And you might ask students which of these captions best describes the picture? Now, the problem is we can't ask or it might be difficult to ask the question why, right? To ask that justification. So, how do we construct the answer in such a way that they can circle parts of the answer, right? Or circle elements of the picture and make aligned parts of the explanation. So, I don't know if that's the kind of strategy that you may already be using, and if you are, I commend you. But I think thinking a bit creatively about the challenge itself when presenting with students, how do we ensure there's enough language in the challenge itself when students are reading it? That they don't have to use, they don't have to speak their answers, they can point to, circle, select, maybe even put, label a variety of different things in order to better understand what they would explain to us. I'm not sure if that's a rich enough answer, but it's the best I could do in the moment. Perhaps we could talk a little--

- [Cindy] Well, it was a multifaceted question and it is one of the challenges that educators have when we're teaching students who have very unique needs and strengths and not even profiles. So, I think that was a really good answer. That's actually all the time that we do have today for the live questions. So we're going to end our question and answer session at this time. If any of our webinar participants do have further questions and if you have already submitted one that we weren't able to get to, it will be answered. You can either email us at info@LDatSchool.ca or use the hashtag, our Twitter hashtag for LDwebinar and we will ensure that your questions are answered.